National Pesticide Information Center

2021 Annual Report

Third Operational Year

February 15, 2021 - February 14, 2022

Cooperative Agreement # X8-83947901
Environmental and Molecular Toxicology
Oregon State University
310 Weniger Hall
Corvallis, OR 97331-6502
800-858-7378
npic.orst.edu

npic
NATIONAL PESTICIDE INFORMATION CENTER

Environmental & Molecular Toxicology
Oregon State University

The National Pesticide Information Center (NPIC) is a service that provides a variety of pesticide and related information to the public and professionals across the United States and its territories. NPIC is a cooperative agreement between Oregon State University and the US Environmental Protection Agency. The 2021 Annual Report covers the period of February 15, 2021 - February 14, 2022.

DISCLAIMER

Material presented in this report is based on information as provided to NPIC by individuals who have contacted NPIC for information or to report a pesticide incident. None of the information reported to NPIC has been verified or substantiated by independent investigation by NPIC staff, laboratory analysis, or any other means. Based on the information provided, NPIC qualifies the information by assigning a consistency index (CI) and a severity index (SI). NPIC makes no claims or guarantees as to the accuracy of the CI, SI, or other information presented in its reports, other than that NPIC has done its best to accurately document and report the information provided to NPIC.

Table of Contents

NPIC Mission Statement

- The primary mission of the National Pesticide Information Center (NPIC) is to provide objective information, collect and report incident data, use cutting edge technologies, and conduct extensive outreach to diverse audiences to promote a better understanding of pesticide use, with an overall goal of reducing risks to people, animals, and the environment.

General Compliance Statement

- Throughout the reporting period, NPIC has complied with the requirements of the U.S. Environmental Protection Agency (U.S. EPA) regarding Title VI of the Civil Rights Act of 1964 and Section 13 of the FWPCA Amendments of 1972.
- NPIC has complied with U.S. EPA Guidelines regarding procurement requirements stipulated in 40 CFR Part 33.
- NPIC has complied with all special requirements specified by U.S. EPA as part of the funding authorization of this project.

Submitted To:

US Environmental Protection Agency
Office of Pesticide Programs

Submitted by April 14, 2022 from:

Jeff Jenkins, PhD
Director/Principal Investigator

Introduction

NPIC provides objective, science-based information about pesticides and related topics to enable people to make informed decisions about pesticides and their use. In this, the third year of the project period under cooperative agreement #X8-83947901, Oregon State University (OSU) provided information to millions of people by phone, email, social media, data-sharing, mobile web apps, and/or web content.

NPIC supports the U.S. Environmental Protection Agency (U.S. EPA) 2018-2022 Strategic Plan Goal 1: Core Mission, and Objective 1.4: "Ensure Safety of Chemicals in the Marketplace," which states: "Effectively implement the Toxic Substances Control Act, and the Federal Insecticide, Fungicide, and Rodenticide Act to ensure new and existing chemicals and pesticides are reviewed for their potential risks to human health and the environment and actions are taken when necessary." NPIC also supports the mission of the OSU Extension System, conveying research-based knowledge in a way that is useful for people to improve their lives, their homes, and their communities.

The complete record of NPIC accomplishments for the operational year includes this annual report, four quarterly reports, and a quality assurance report.

Program Highlights and Summary

- NPIC responded to 8,208 inquiries this grant year, including 5,822 phone calls, 1,389 emails, and 997 voicemail messages.
- Most inquiries to NPIC came from members of the public (89%). NPIC also responded to 93 inquiries from government/enforcement agencies, 67 inquiries from medical professionals (43% veterinary), 23 inquiries from pesticide retailer employees, and seven inquiries from health agencies.
- One (1) human death and 47 animal deaths related to pesticides were reported to NPIC.
- A trend was noted regarding Seresto collar incidents. NPIC worked with EPA to provide details about the 25 human and animal Seresto incidents reported to NPIC this year.
- NPIC responded to 301 inquiries in languages other than English, including:
  - Arabic (2)
  - French (3)
  - Hindi (1)
  - Indonesian (1)
  - Italian (1)
  - Russian (7)
  - Spanish (284)
  - Swedish (1)
  - Tagalog (1)
- The NPIC website received 7,557,851 page views.[1] NPIC added 76 new links to its website as high-quality science and regulatory items were identified.

[1] This metric cannot be calculated by half-month. As such, these numbers represent the calendar year of 2021.

How are people finding NPIC?

2,932 from the internet (36.4%)

1,979 from a product label (24.6%)

923 from previous contact with NPIC or word of mouth (11.5%)

660 from pest control companies (8.2%)

168 from medical/veterinary professionals (2.1%)

110 from EPA personnel (1.4%)

72 from state pesticide regulatory agencies (0.9%)

53 from pesticide manufacturers (0.7%)

50 from university extension (0.6%)

1,104 from other/unknown entities (13.6%)

Objectives and Deliverables

1. Serve as a source of factual, unbiased information for diverse audiences including the agricultural and pest control community, healthcare providers, educators, consumers, and the public.

Anticipated outcomes	Actual outcomes
Maintain open hours from 8:00am-12:00pm, Monday - Friday	NPIC maintained open hours from 8:00am to 12:00pm Pacific Time, Monday-Friday, excluding holidays, with no closures due to technical or staffing issues.
Maintain multilingual capabilities	NPIC maintained multilingual capabilities during 100% of operational hours.
Respond immediately to 95% of calls	NPIC responded immediately to 99% of calls received during open hours. Occasionally, people choose to leave a voicemail.
Respond to 95% of messages within one business day	NPIC responded within one business day to 99% of inquiries received via voicemail, email, and/or social media.
Recruit/retain highly qualified pesticide specialists	NPIC hired one new pesticide specialist this year. NPIC retained six pesticide specialists in GY3.
Perform five collaborative outreach/expert consultation efforts	NPIC collaborated on 23 outreach and consultation efforts this grant year to provide pesticide safety messaging and risk communication instruction to the public, medical professionals, agricultural growers, and educators. Efforts included: • Amy Cross discussed communication and outreach between NPIC and tribes with EPA Region 10 intern Emily Siangkam. • NPIC participated in the Oregon Department of Agriculture's Pesticide Analytical and Response Center follow-up meeting about clopyralid-contaminated compost issues from 2020, helping to identify resources for affected citizens. • Amy Cross discussed disinfectant trends with various state agencies at the Oregon Pesticide Symposium in April 2021. • NPIC participated in a meeting of the Association of Structural Pest Control Regulatory Officials (ASPCRO), Structural Remediation Committee (SRC), to discuss contributing materials for a new pesticide cleanup resources tool, RemediaPedia. • NPIC and the Washington Department of Health created an **infographic about bleach safety** for early childcare centers. • Amy Cross discussed NPIC services with the Tribal Pesticide Program Council (TPPC). • Amy Cross participated in a board meeting with the Oregon Department of Agriculture's Pesticide Analytical and Response Center (PARC) to discuss current events and incidents in Oregon. • Amy Cross and Jennifer Gervais presented virtually about risk communication and debunking misinformation at the Public Health Pesticide Regulatory Education Program (PREP) course. • Amy Cross discussed NPIC services with inspectors of the Wisconsin Department of Agriculture, Trade, and Consumer Protection.

1. Serve as a source of factual, unbiased information for diverse audiences including the agricultural and pest control community, healthcare providers, educators, consumers, and the public (continued).

Anticipated outcomes	Actual outcomes
Perform five collaborative outreach/expert consultation efforts (continued)	• Amy Cross presented at the national SFIREG meeting to explain NPIC services, data collection, and noteworthy cases. • Suzanne Forsyth with the Pesticide Educational Resources Collaborative (PERC) promoted NPIC services and where to report pesticide exposures during the Pesticides and Public Health PREP course. • Amy Cross and Jennifer Gervais presented at the Pesticide Applicators Certification & Training (PACT) conference in Denver, CO, discussing risk communication for state, federal, tribal, and territory officials. • Amy Cross worked with Clint Shettle, Virginia Department of Agriculture and Consumer Services, to approve the use of NPIC images and written content in a brochure about mothball risks and proper use. • NPIC and the American Association of Poison Control Centers hosted a Facebook Live event about disinfectant risks and best practices titled, "**Partner Chat: Deep Dive on Disinfectants**." • Amy Cross presented at the EPA Regional Division Directors meeting about NPIC services, data collection, and noteworthy case reporting. • Amy Cross and Jennifer Gervais presented virtually about risk communication and debunking misinformation at the Pesticides and Water Quality PREP course. • NPIC worked with an Oregon Poison Center's Community Outreach Educator to translate an existing NPIC **infographic about PPE** into Spanish for use in a poison center outreach campaign. • NPIC shared disinfectant safety webinar slides with EPA Region 8 for use at the Wyoming Pesticides Education Conference. • Amy Cross discussed NPIC services, data collection, and noteworthy cases at the Region 10 Directors Meeting. • NPIC led a risk communication workshop at the Piscicide Applicator Continuing Education Short Course for the Arizona-New Mexico Chapter of the American Fisheries Society. • NPIC cohosted a webinar with the Pesticide Educational Resources Collaborative – Medical (PERC-med) titled **Disinfectants: What clinicians need to know to reduce risk**. The webinar was hosted by the Oregon Pacific Area Health Education Center. • NPIC worked with the American Association of Poison Control Centers, the Oregon Poison Center, the Washington Poison Center, and the Virginia Poison Center to spread awareness of NPIC's new infographic titled **Disinfectant Wipes are Different**. • Amy Cross and former NPIC employee Alicia Leytem (Oregon State University) were interviewed in the February 2022 issue of **Dermatology World** to reach out to medical professionals about pesticide risks in bedbug control. The interview highlighted a 2021 NPIC publication: **Pesticides Misused for Bed Bug Control: Comparing Professional and Nonprofessional Applications Reported to the National Pesticide Information Center, 2013–2017.**

2. Provide information on a wide variety of pesticide-related subjects including, but not limited to, pesticide products, toxicology, environmental chemistry, safety practices, pesticide regulation, enforcement, risk assessment, risk management, environmental effects, clean-up and disposal, understanding the label, recognition and management of pesticide poisonings, and integrated pest management (IPM).

Anticipated outcomes	Actual outcomes
Monitor 5-10 relevant publications	To stay current, NPIC staff members monitored 23 relevant publications and publication indexing services, including federal register notices, affiliated dockets, newsletters, listservs, and selected journals of relevance.
Evaluate information about pesticide science and regulation	Annually, NPIC will evaluate at least 1,000 articles, documents, and websites to maintain and expand up-to-date, reputable, immediately accessible, and optimized information about pesticide science and regulation. This grant year, NPIC evaluated 1,908 relevant articles, documents, and websites.
Create/update 20 AI files	This grant year NPIC updated 17 active ingredient (AI) files and created three new AI files: • Acetic Acid • Brodifacoum • Calcium Acetate (new) • Calcium Hypochlorite • Chlorantraniliprole • Citric Acid • Dithiopyr • Esfenvalerate • Fenoxaprop-p-ethyl • Flumethrin • Fluroxypyr • Inpyrfluxam (new) • Naphthalene acetic acid • Paraquat Dichloride • Polihexanide • Prallethrin • Prodiamine • Sulfentrazone • Sodium Hypochlorite • Tiafenacil (new) NPIC also added 355 new documents to AI files this grant year.
Attend 15-20 CE events	NPIC staff members attended 34 events for continuing education (CE) this grant year, including 19 webinars, eight conferences/workshops hosted by other organizations, six events hosted by Oregon State University, and one in-house presentation.
Track risk-reduction conversations	NPIC tracked certain elements to quantify risk-reduction activities. In conversations with callers, pesticide specialists discussed following the label 1,962 times, ways to minimize exposure 1,733 times, IPM concepts 498 times, and environmental protection (including pollinator protection) 82 times.
Maintain continuous storage capacity	NPIC maintained storage capacity in order to ensure continuous access to NPIC resources by stakeholders, documenting, and reporting milestones to inform future efforts for secure, long term data storage and hosting capacity.

3. Address current and emerging pesticide-related issues and provide federal, state, and local resources on the topics in Objective 2.

Anticipated outcomes	Actual outcomes
Discuss "Important and Interesting" cases	The NPIC Project Coordinator regularly polled specialists about inquiry trends. NPIC specialists discussed 100% of cases flagged as "Important and Interesting" with the entire NPIC team. Specialists discussed 154 cases this grant year.
Discuss trends and data with OPP as part of quarterly coordination meetings (QCM)	NPIC discussed trends and data with OPP during Quarterly Coordination Meetings on June 23, 2021, and January 20, 2022. The decision to combine Quarterly Coordination meetings was made after discussion with the EPA Project Officer. Topics of focus during the meetings included: • NPIC and OPP discussed data trends and deliverables for Q4 (GY2) and Q1 (GY3) at the Quarterly Coordination Meeting on June 23, 2021. • NPIC discussed trends and data with OPP personnel during the Q2/Q3 Quarterly Coordination Meeting on January 20, 2022. Follow-up discussions included sharing NPIC's upcoming ADBAC/DDAC fact sheet with specific OPP AD personnel, ozonated water incidents, and an infographic about comparing pesticide wipes with non-pesticide wipes. • The GY3 Q4 Quarterly Coordination Meeting date is pending.
Share noteworthy cases with EPA	NPIC shared 100 noteworthy cases with the EPA Project Officer.
Compile statistics and submit timely reports	NPIC compiles summary statistics about inquiries received on a quarterly and annual basis. This annual report was submitted within 60 days of the quarter's closure, on April 14, 2022.
Submit VIRP and Eco-reports to EPA	Veterinary professionals submitted 15 incident reports using NPIC's Veterinary Incident Reporting Portal (VIRP). Seventy-three (73) incident reports were submitted using NPIC's Ecological Incident Reporting Portal (Eco-Portal). All VIRP and Eco-Portal reports are included as supplemental materials to this GY4 annual report.
Promote the availability of NPIC data to states and tribes, annually	NPIC promoted the availability of inquiry data to state pesticide regulatory agencies during a presentation at the national Association of American Pesticide Control Officials' State FIFRA Issues Research and Evaluation Group (AAPCO – SFIREG) meeting on December 7, 2021. NPIC services, including how to request NPIC data, were discussed with the Tribal Pesticide Program Council Executive Committee on May 19, 2021.
Review project deliverables to coordinate with AAPCC and OHSU	NPIC continued to monitor and improve its working relationship(s) with AAPCC and OHSU, ensuring that baseline expectations were met and/or exceeded.
Make timely referrals to appropriate state and local resources	Specialists made timely and appropriate referrals with <3% margin of error. This standard was evaluated as part of annual staff evaluations in Q3.
Provide special reports to EPA and cooperative partners within 10 business days	NPIC provided 18 special reports this grant year within 10 business days, unless otherwise negotiated. NPIC received data requests from: • EPA OPP for incidents or uses of AC-5 Red cleaning products. • EPA OCSPP Communications Branch for top 50 most popular active ingredients 2018-2021.

3. Address current and emerging pesticide-related issues and provide federal, state, and local resources on the topics in Objective 2 (continued).

Anticipated outcomes	Actual outcomes
Provide special reports to EPA and cooperative partners within 10 business days (continued)	• EPA OPP EFED for Seresto cases 2014 - 2021. • EPA OPP HED regarding diazinon incidents 2014 - 2021 (partial year). • EPA OPP HED regarding malathion incidents 2014 - 2021 (partial year). • EPA OPP HED regarding take-home exposures for workers' families. • EPA OPP PRD regarding inquiries about Reg. No. 53883-328. • EPA OPP PRD regarding complaints against Orkin, Rollins, Inc., and Control Solutions, Inc. • EPA OPP PRD regarding all agriculture-related inquiries 2011 - 2021. • EPA OPP PRD follow-up request organizing agriculture-related inquiries 2011 - 2021 by active ingredient. • Maine Department of Agriculture, Conservation, and Forestry about all Maine inquiries 2019 - 2020 (partial year). • Maine Department of Agriculture, Conservation, and Forestry about all Maine inquiries for 2020 (full calendar year). • Michigan Department of Agriculture and Rural Development regarding methomyl incidents in 2020. This request was the final of five annual requests from 2016 to 2020. • Oregon Department of Agriculture about Oregon Seresto incidents 2013 - 2021 (partial year). • Oregon Department of Agriculture for all Oregon inquiries July 2019 - June 2021. • Pennsylvania Department of Agriculture, Bureau of Plant Industry for all PA inquiries 2018 - May 2021. • Pennsylvania Department of Agriculture, Bureau of Plant Industry for all PA inquiries May - November 2021. • Wisconsin Department of Agriculture, Trade, and Consumer Protection regarding human exposures in Wisconsin November 2019 - November 2021.

4. Provide reputable, science-based information in a manner understandable to a lay audience to help people make informed decisions.

Anticipated outcomes	Actual outcomes
Coordinate with OPP on proposed projects	NPIC coordinated and communicated with OPP frequently during the grant year, including: • Elizabeth Evans discussed a trend of concern about ivermectin ingestion for control of COVID and asked NPIC about similar reports. • Yvette Hopkins requested NPIC reports of adverse events related to devices; there were none. • NPIC alerted the EPA Project Officer of a call trend related to Seresto collars after an article in USA Today about Seresto incidents. • NPIC reported a product to the EPA Project Officer that was potentially mislabeled. The product was a hand and surface wipe "ProClean Disinfecting 75% Alcohol Wipes 50 Wipes - 4 Pack." • NPIC attended an incident work group meeting with OPP and PMRA Canada to discuss Seresto collars.

4. Provide reputable, science-based information in a manner understandable to a lay audience to help people make informed decisions (continued).

Anticipated outcomes	Actual outcomes
Coordinate with OPP on proposed projects (continued)	• NPIC discussed CCA-treated utility pole coatings and volatility with Daniel Halpert of OPP AD. • NPIC discussed Seresto inquiries with the EPA Project Officer and Shanna Recore, OPP HED. • NPIC discussed the NPIC Consistency Index (formerly "Certainty Index") with Nicholas Mastrota, OPP EFED, regarding use in Seresto noteworthy cases sent to EPA. • NPIC discussed sodium nitrite with OPP after reports of incidents and deaths through the Oregon Health Authority and Oregon Department of Agriculture. • Amy Cross assisted José Gayoso, EPA OPP AD, in responding to a caller with questions about her husband's exposure to CCA and other treated wood during his work as a firefighter. • Amy Cross discussed Noteworthy Case reporting criteria with the EPA Project Officer, highlighting the need for messaging to EPA Regional offices about NPIC services and case reporting policies. • At the virtual site visit in August 2021, NPIC staff discussed several topics and proposed new projects with various OPP offices (see Objective 6). • NPIC and the OCSPP Communications Branch discussed scheduling regular NPIC data requests and collaborating on social media outreach. • NPIC created website and social media messaging about risks of veterinary ivermectin use for humans, coordinating with the OCSPP Communications Branch and the American Association of Poison Control Centers (AAPCC). • NPIC notified the EPA Project Officer, the OCSPP Communications Branch, and Yvette Hopkins about a potential TikTok trend of ingesting glyphosate for COVID. NPIC followed up with website and social media outreach. • Amy Cross met with EPA personnel about creating outreach about indoor air quality and ozone generating devices. • Amy Cross discussed NPIC services and concern about misleading label statements with EPA Label Review Managers. • As a result of a collaboration with Derrick Terrada and EPA Region 10 to spread awareness about disinfectant risks, NPIC conducted targeted disinfectant risk advertising to teachers, workers, and other high-risk user groups nationwide. The online advertising reached over 1 million impressions (also referred to as view-throughs or displays). • NPIC provided feedback to Amy Mysz of EPA Region 5 about the impact and usefulness of EPA research pesticide sampling and decontamination research projects. • Amy Cross discussed NPIC's Consistency Index (formerly "Certainty Index") and Seresto collar incidents with the Environmental Fate and Effects Division of OPP. • NPIC discussed a high-priority product, AC-5 Red cleaner, with Elizabeth Evans and the SENSOR group researching recent incidents. • NPIC and the EPA Project Officer discussed how more callers may be finding NPIC through state pesticide agencies.

4. Provide reputable, science-based information in a manner understandable to a lay audience to help people make informed decisions (continued).

Anticipated outcomes	Actual outcomes
Coordinate with OPP on proposed projects (continued)	• NPIC and the EPA Project Officer discussed plans for an NPIC presentation about risk and disinfectant safety for EPA student interns. • NPIC and the OCSPP Communications Branch amplified social media messaging for National Pesticide Safety Education Month by sharing and coordinating content themes. • NPIC and Diane Isbell, OPP Antimicrobials Division, discussed an in-depth courtesy review of the future NPIC fact sheet about disinfectant ingredients ADBAC/DDAC fact sheet. • Yvette Hopkins discussed risks of ozonated water devices with NPIC, citing the statement titled Communication to SFIREG from EPA Regarding Use of Ozonated Water Devices. • Amy Cross and the EPA Project Officer discussed recommendations for NPIC in the December 2021 **Farm, Ranch, and Rural Communities (FRRC) Advisory Committee Recommendations to U.S. Environmental Protection Agency**. • NPIC and OPP discussed potential updates to NPIC's Chlorantraniliprole fact sheet, via courtesy review by OPP. • The January 2022 QCM with EPA led to discussions about an outreach piece describing the differences between pesticide and non-pesticide wipes. NPIC worked with Fabiola Estrada of EPA Region 9 to identify needs. Through this collaboration, NPIC created the infographic **Disinfectant Wipes are Different**.
Create/update 5-10 web pages	NPIC created 11 new web pages this grant year: • **A deep dive about disinfectant safety** (short FAQ videos) • **Caterpillars** • Chlorantraniliprole **main page** and **fact sheet** • Disinfectant Safety for Workers During COVID-19 (**English** | **Spanish**) • FAQ: **Can I use compost contaminated with clopyralid or other herbicides?** • FAQ: **Can pesticides cause cancer?** • **Pesticide Hazard vs. Risk Fact Sheet** • **Resources for Small Farms** • **Urban Agriculture** NPIC also significantly updated 15 web pages including **Videos by NPIC** and "**Local Contacts**" in each state: • **County Extension** • **EPA Regions** • **Household and Hazardous Waste (HHW)** • **Master Gardeners** • **Mosquito/Vector Control Districts** • **Occupational Safety and Health (OSHA)** • **Pesticide Safety Education Programs (PSEP)** • **Soil and Water Conservation Districts** • **State Environmental Agencies** • **State Health Departments** • **State Pesticide Regulatory Agencies** • **University Extension** • **Worker Protection (WPS)**

4. Provide reputable, science-based information in a manner understandable to a lay audience to help people make informed decisions (continued).

Anticipated outcomes	Actual outcomes
Remove/replace 100% of broken links	NPIC conducted an in-depth review and retooling of the process used to identify and replace external broken links on our website. This grant year, NPIC removed or replaced 509 broken links.
Update 200 contacts	To provide the best referrals when appropriate, NPIC actively verifies/updates contact lists (e.g., county extension, vector control, manufacturers) on a routine basis. This grant year, NPIC updated 736 contacts, including: • EPA Regional Offices (including new school IPM and tribal contacts) • Occupational Safety and Health Administration (OSHA) • State Pesticide Regulatory Agencies • State/University Extension & Publications • Vector Control Districts (added new contacts) • WPS State Offices
Develop 2-4 new infographic materials	NPIC developed four new infographics, titled: • Disinfectant Wipes are Different (**PDF** | **PNG**) • Pesticide Movement in the Environment (**PDF** | **PNG**) • Using Bleach at Child Care Sites (**PDF** | **PNG**) • Evite exponerse a los pesticidas con ropa protectora (**PDF** | **PNG**) (Avoid Pesticide Exposure with Protective Clothing). This infographic was translated into Spanish in collaboration with Oregon Health & Sciences University (OHSU).
Develop 2-4 new fact sheets	NPIC developed two new fact sheets titled: • **Chlorantraniliprole** • **Pesticide Hazard vs. Risk**
Formalize procedures for reference selection in fact sheets	NPIC has completed formalizing procedures for selecting references in NPIC fact sheets. An overview of these procedures is provided in "**Writing NPIC Fact Sheets**".
Post 2-4 items per week in social media venues	NPIC posts new items in social media venues (Facebook and Twitter) promoting safe use practices, IPM, and pesticide label comprehension. This grant year NPIC uploaded 199 posts, averaging 4 per week.
Ensure continuous access to NPIC apps	NPIC ensured continuous access to NPIC apps by stakeholders, maintaining software applications, tools, and mobile apps. In Quarter 1, a university-wide power outage from ice storms caused discontinuation of three web apps that were slated for retirement: Mobile Access to Pesticides & Labels (MAPL), Insect Repellent Locator (IRL), and Pesticide Education & Search Tool (PEST). Newer apps or web pages on NPIC/EPA websites already included the content from these older web apps. This outage did not affect newer web apps such as NPIC's Product Research Online (NPRO) or the Herbicide Properties Tool (HPT). The affected apps were officially removed and redirected to the newer apps or web content.
Update HPT annually, as needed	This grant year, NPIC updated the **Herbicide Properties Tool** (HPT) to provide citations when HPT data originated from the Herbicide Handbook (Weed Science Society of America, 2014). Due to copyright restrictions, NPIC is unable to link directly to a digital version of the data.

4. Provide reputable, science-based information in a manner understandable to a lay audience to help people make informed decisions (continued).

Anticipated outcomes	Actual outcomes
Develop and deliver one webinar	This grant year, NPIC developed and delivered two new webinars: • On August 31, 2021, NPIC presented a webinar, "**Partner Chat: Deep Dive on Disinfectant Precautions**," in collaboration with the American Association of Poison Control Centers (AAPCC). • On February 8, 2022, NPIC presented a webinar in collaboration with the Pesticide Educational Resources Collaborative – Medical (PERC-med) titled, "**Disinfectants: What Clinicians Need to Know to Reduce Risk**". The webinar was hosted by the Oregon Pacific Area Health Education Center.
Annually, develop up to 2 videos	NPIC and AAPCC developed 11 topic-based video clips about disinfectant safety from the Partner Chat webinar: • **What if a baby or toddler licks disinfectants or hand sanitizer from their hands?** • **How often is it necessary to disinfect "high touch" surfaces?** • **Can kids help with cleaning and disinfecting a home or classroom?** • **What are some general tips that parents, caregivers, and teachers can use while disinfecting?** • **What's the right way to go about sanitizing and disinfecting before and after preparing food?** • **Should people put bleach in their soapy dish water?** • **A website or a friend recommended a new recipe for disinfecting. What are the risks if I try DIY?** • **Why is it important to avoid mixing disinfectants and household chemicals?** • **Why shouldn't you spray disinfectant into the air to fight airborne illnesses?** • **What's the proper way to disinfect a home? Should people wash their hands right after disinfecting?** • **Disinfectants, sanitizers and antiseptics...what's the difference between all three**

5. Collect and disseminate quality pesticide incident data via a rigorous and well-defined data collection system.

Anticipated outcomes	Actual outcomes
Capture 80% of human demographics	NPIC specialists were able to document demographic information for 99% of human incidents, including age and/or gender. Callers occasionally decline to provide personal information such as age.
Capture 80% of incident information	"Incident information" includes information such as symptoms, time to onset of symptoms, and circumstances surrounding reported exposures. Among 1,215 reported incidents involving humans or animals, NPIC specialists were able to capture the symptom/scenario information in 91% of cases.
Capture 80% of product information	NPIC specialists were able to collect product information for 91% of reported incidents.

5. Collect and disseminate quality pesticide incident data via a rigorous and well-defined data collection system (continued).

Anticipated outcomes	Actual outcomes
Capture 80% of location	NPIC specialists were able to document the location for 87% of reported pesticide incidents.
Capture 70% of exposure routes	Among the 1,215 reported incidents involving humans or animals, NPIC specialists were able to capture the exposure route in 78% of cases.
Classify reported signs/ symptoms in terms of severity and consistency	NPIC used standard operating procedures and rigorous quality control to classify reported signs/symptoms in terms of severity (severity index) and in terms of their relationship to the reported exposures (consistency index). NPIC assigned a severity index 100% of the time when signs/symptoms were known (1,270 times). Signs or symptoms were categorized as minor, moderate, major, or death 759 times. NPIC assigned a consistency index 100% of the time when signs/symptoms were described, and they could be compared to published reports about the active ingredient(s) involved (534 times).
Monitor data quality and take steps to ensure high standards are met	NPIC produced internally routed human and animal incident reports in coordination with Dr. Berman (OHSU), highlighting any changes in coding that were made in the QA process.
Deliver at least 6 quality assurance exercises lead by the QA/QC specialist.	The QA/QC facilitator led eight training exercises during staff meetings to facilitate consistency in data quality. Trainings included: • Coding multiple logs from the same caller • Consistency Index and Incident Narratives • How to properly code “Type of Question” for NPIC questions, food establishments, and other • Incident coding trivia game • Incident Entity Severity Index • Miscellaneous PID topics for busy season preparation • Narrative Best Practices • Proper etiquette for coding and presenting “Important & Interesting” cases
Conduct LARs to ensure data quality	Log Assessment Reviews (LARs) were conducted as part of regularly scheduled annual staff evaluations in Q3 (see Objective 6), including quantifiable measures of data completeness and coding consistency.

6. Provide exceptional customer service by integrating professionalism, teamwork, integrity, accountability, and a strong commitment to the public, as well as to the professional and medical communities.

Anticipated outcomes	Actual outcomes
Develop and execute a rigorous training program	NPIC hired one pesticide specialist, Alyxandra James, in Quarter 4. All training materials, exercises, and the training manual were updated.
Complete one evaluation event through 3rd-party assessment, annually	NPIC’s annual 3rd-party assessment was completed in Q2 and Q3 through a secret shopper evaluation, with evaluations made available by the end of Q3. NPIC specialists were evaluated on 19 customer service metrics, including efficiency, effective communication, and their ability to meet customers’ needs.

6. Provide exceptional customer service by integrating professionalism, teamwork, integrity, accountability, and a strong commitment to the public, as well as to the professional and medical communities (continued).

Anticipated outcomes	Actual outcomes
Evaluate staff members annually	NPIC comprehensively evaluated each staff member annually during Q3, including quantified measures of data collection skills (see Objective 5), referral appropriateness, customer service skills, and continuing education measures.
Site visit to EPA in GY3	NPIC presented GY2 data trends during a virtual site visit with the EPA Project Officer and various OPP divisions in August 2021. Topics and follow-up conversations included discussions with: ● Antimicrobials Division to review a new NPIC page about workers and disinfectants. ● Antimicrobials Division about ozone generators and monitoring protocols for schools and indoor air quality. ● Antimicrobials Division about sharing NPIC outreach materials with the Department of Education. ● Antimicrobials Division about using synonyms for ADBAC and DDAC on labels, health risks of impregnated materials, air sanitizers, sealed vs. unsealed granite for use sites, and improper sale of mattresses impregnated with diatomaceous earth as FIFRA exempt “treated articles.” ● Registration Division, Pesticide Reregistration Division, and Incident Screening Team about how to get NPIC on more pesticide labels and improve NPIC visibility. ● Office of Enforcement and Compliance about responding to Amazon seller questions. ● OCSPP Communications Branch about Roundup product diversification to 10+ active ingredients. ● OCSPP Communications Branch about social media sharing and future collaborations. ● EPA Region 10 about neighbor notification and other frequently asked questions related to forestry applications.

Difficulties, Deviations, and Departures

In Quarter 1, a university-wide power outage from ice storms caused discontinuation of three web apps that were slated for retirement: Mobile Access to Pesticides & Labels (MAPL), Insect Repellent Locator (IRL), and Pesticide Education & Search Tool (PEST). Newer apps or web pages on NPIC/EPA websites already included the content from these older web apps. This outage did not affect newer web apps such as NPIC’s Product Research Online (NPRO) or the Herbicide Properties Tool (HPT). The affected apps were officially removed and redirected to the newer apps or web content.

In Quarter 2, Giovanna Alemán departed NPIC on July 16, 2021. In Quarter 3, Warren Hanson departed NPIC on September 30, 2021. In Quarter 4, Kaci Buhl concluded her tenure with NPIC.

Introduction to Inquiry Data

Pesticide specialists create a record for every inquiry, which is entered into the NPIC Pesticide Inquiry Database (PID). PID is a relational database, designed and built by NPIC. Custom reports may be available based on many of the items listed below.

There are three types of inquiries received by NPIC:

- Requests for information about pesticides and related issues
- Inquiries or reports about pesticide incidents
- Issues that are not related to pesticides

The type and amount of information entered into the PID depends on the type of inquiry.

NPIC aims to collect the following information for all pesticide-related inquiries:

- The inquirer's zip code or state
- The type of person (public, government, medical personnel, etc.)
- The type of question (health risk, regulatory compliance, label clarity, etc.)
- The EPA registration number, product name and/or active ingredient name(s)
- The actions performed (verbal information, referrals, transfers, etc.)
- The way the person found NPIC (web, referrals, etc.)

For pesticide incidents, NPIC makes every effort to collect these additional data:

- The type of incident (exposure route, misapplication, spill, etc.)
- The type of exposed entity (person, animal, building, etc.)
- The location of the incident (inside the home, outside the home, retail store, school, etc.)

If a person or animal was exposed to a pesticide, NPIC specialists attempt to collect additional information. However, they may not ask for all of these items during emergency medical events.

- A timeline describing the exposure duration, symptom onset, and resolution
- The person or animal's age, symptoms, and gender
- The species, breed, and weight of animals

When symptoms are reported and the active ingredient(s) are known, specialists evaluate the relationship between them to assign a **consistency index**. The consistency index is an estimate by NPIC as to whether the reported symptoms were consistent or inconsistent with published reports/materials for the identified active ingredients, in the context of the reported pesticide exposure. Specialists use the following tools when assigning the consistency index:

- A standard set of criteria, defined in NPIC training and procedures
- Published exposure reports and case studies
- Input from Dr. Berman, DVM, for human and animal exposure incidents
- Input from the PID QA/QC specialist

Symptoms are also characterized in terms of their **severity** in the PID. The criteria for defining major, moderate, and minor symptoms were adapted from similar mechanisms used by poison control centers in the National Poison Data System, and by the U.S. EPA in the Incident Data System.

NPIC DATA

The following pages include details about the incidents and inquiries documented by NPIC from February 15, 2021 to February 14, 2022.

Disclaimers and Explanatory Information:

- Material presented in this report is based on information provided to NPIC by individuals who contacted NPIC, primarily by phone or email.
- None of the information has been verified or substantiated through independent investigation by NPIC staff, laboratory analyses, or by any other means. This is similar to other self-reported public-health-monitoring programs, including the incident data recorded by poison control centers.
- If a person alleges/reports a pesticide incident, it will likely be recorded as an incident by NPIC. To meet the criteria, the person must have sufficient knowledge about the scenario, and it must be reported within two years of its occurrence.
- NPIC defines an incident in terms of public health. The NPIC definition includes any unintended exposure (e.g., child ate a mothball), intended exposures with adverse effects (e.g., illness in pets treated with flea/tick products), spills, and potential misapplications (e.g., a product intended for ornamental plants was applied to vegetables in the home garden.)
- About 2% of the time, callers' main purpose for contacting NPIC was to report a pesticide incident. More often, they contacted NPIC to obtain technical information. See page 22. Regardless, NPIC specialists make every effort to collect complete information about scenarios that meet the NPIC incident definition. Approximately 18% of inquiries to NPIC are coded as incidents.
- NPIC specialists are trained to recognize scenarios that could potentially lead to enforcement actions. In these cases, the standard operating procedure requires a referral to the appropriate State Lead Agency, provided to the inquirer. See page 23.
- NPIC qualifies the information received by assigning a consistency index (CI). The CI is an estimate by NPIC as to the likelihood that the reported signs and symptoms were consistent or inconsistent with published reports/materials for the identified active ingredients, in the context of the reported pesticide exposure. See page 29.
- NPIC makes no claims or guarantees as to the accuracy of the CI or other information presented in its reports, other than that NPIC has done its best to accurately document the information provided to NPIC.
- It is occasionally necessary to collect personally identifiable information (PII) in order to respond to inquiries, for example, by voicemail, email, or mail. Users of web-based incident reporting portals may have the option to submit PII as part of their reports. In all other cases, it is NPIC policy to refrain from collecting/documenting PII from people who contact NPIC through public channels.
- Through its cooperative agreement with EPA, NPIC provides special reports upon request. Special reports may also be provided to other cooperative agreement holders with EPA, such as state-level agriculture and environmental protection agencies. Other entities with interest in special reports should contact NPIC to inquire about the procedure and possible costs.

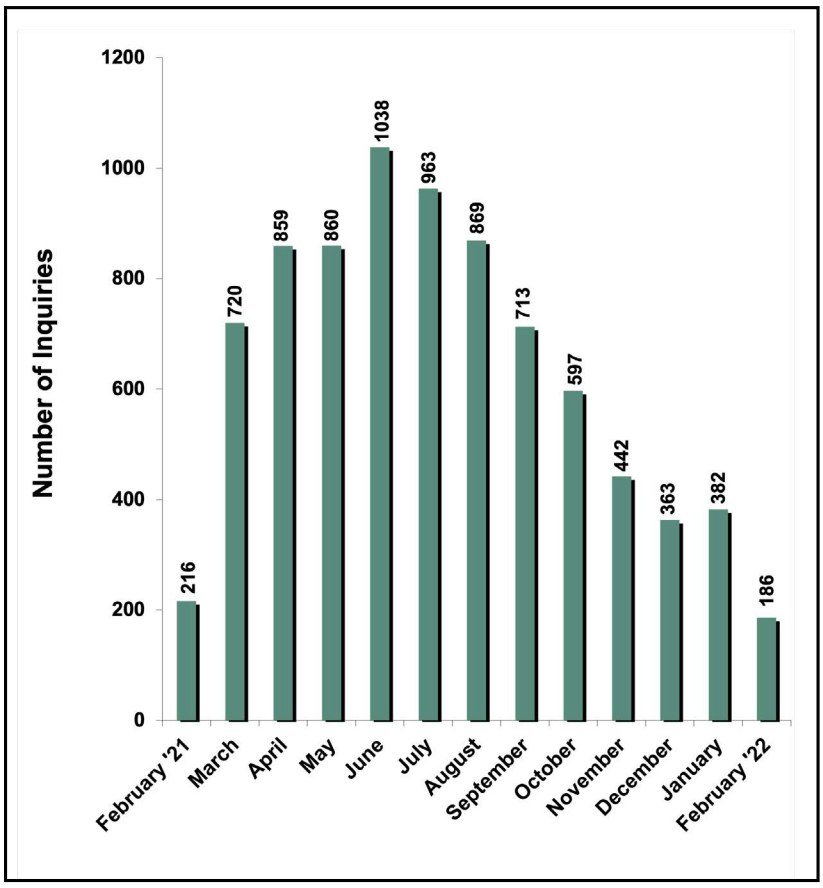
1. Monthly Inquiries

NPIC received 8,208 inquiries during this grant year. Graph 1 shows the number of inquiries received for each month. Seventy-two percent (72%) of the inquiries were received between April and October, concurrent with the part of the year when pest pressures are highest.

Table 1. Monthly inquiries

Month	Total
February 2021	216
March	720
April	859
May	860
June	1038
July	963
August	869
September	713
October	597
November	442
December	363
January	382
February 2022	186

Graph 1. Monthly inquiries



2. Type of Inquiry

NPIC classifies inquiries as information, incident, or other (not pesticide related) inquiries. A pesticide spill, misapplication, contamination of a non-target entity, or any purported exposure to a pesticide, regardless of injury, is classified as an incident.

The types of inquiries are summarized in Table 2 and Chart 2.

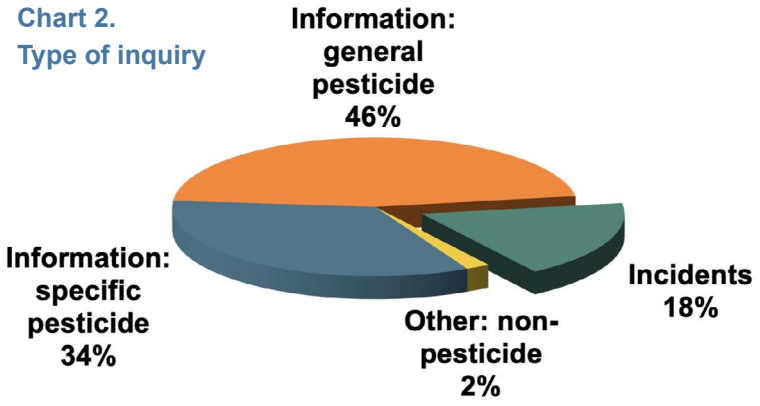
The majority of inquiries (6,568 or 80%) were informational inquiries about pesticides or related topics (Chart 2). NPIC responded to 3,784 (46%) information inquiries about pesticides in general. NPIC responded to 2,784 (34%) information inquiries relating to specific pesticides or active ingredients.

NPIC documented 1,484 incidents involving pesticides (18%). Pesticide specialists routinely provided requested information, evaluated the need for any referrals, and asked several scoping questions to document the circumstances surrounding the reported incidents.

Table 2. Type of inquiry

Type of Inquiry	Total
Information - General Pesticide	3784
Information - Specific Pesticide	2784
Incidents	1484
Other (nonpesticide)	156
Total =	8208

Chart 2. Type of inquiry



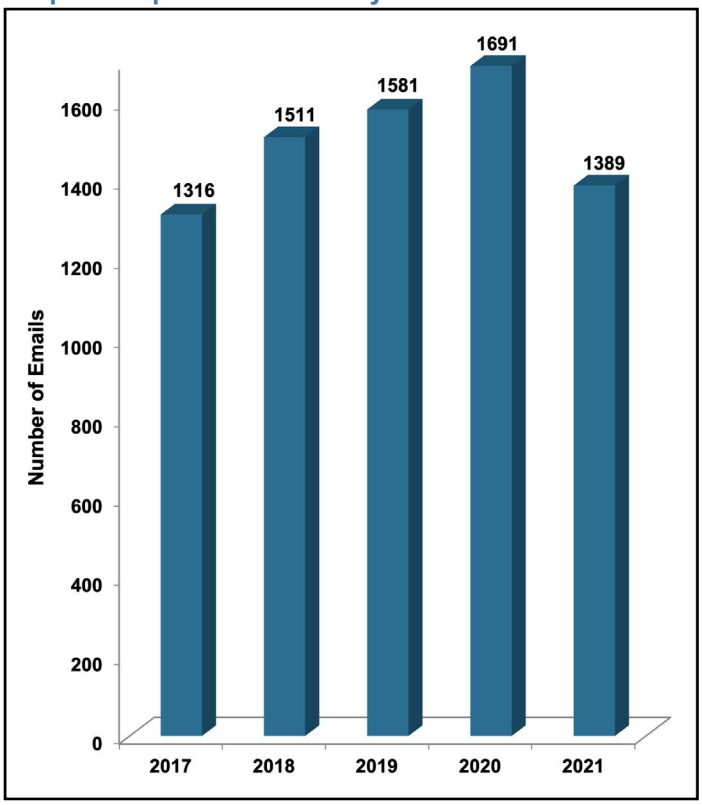
3. Origin of Inquiry

Table 3 summarizes the origin of inquiries received by NPIC. About 71% of inquiries were received by telephone.

Table 3. Origin of inquiry

Origin of Inquiry	Total
Phone	5822
Email/Web	1389
Voicemail	997
Total =	8208

Graph 3. Inquiries received by email



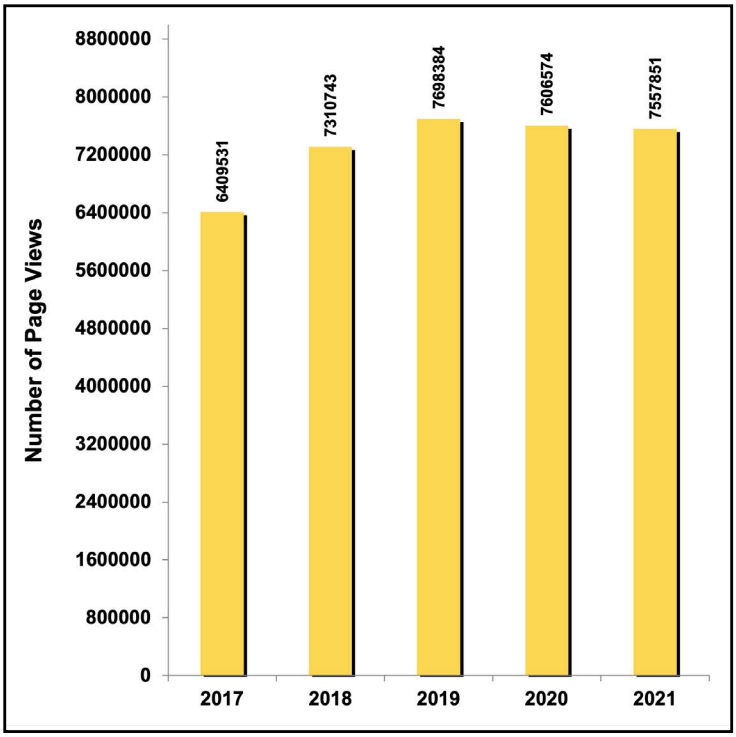
4. Website Access

The NPIC website attracted more than 4.2 million unique visitors viewing 7,557,851 pages during this period.

Most page views originated from queries on popular search sites (57%). Others were connected with NPIC from a bookmark (38%) or direct link (i.e., shared via email). The most popular search phrases used to reach NPIC were “DDT,” “malathion,” and “antimicrobial.”

Visits to the website varied greatly in duration, with 144,912 visits lasting longer than 15 minutes. The average visit duration was approximately 1 1/2 minutes.

Graph 4.1. Page views



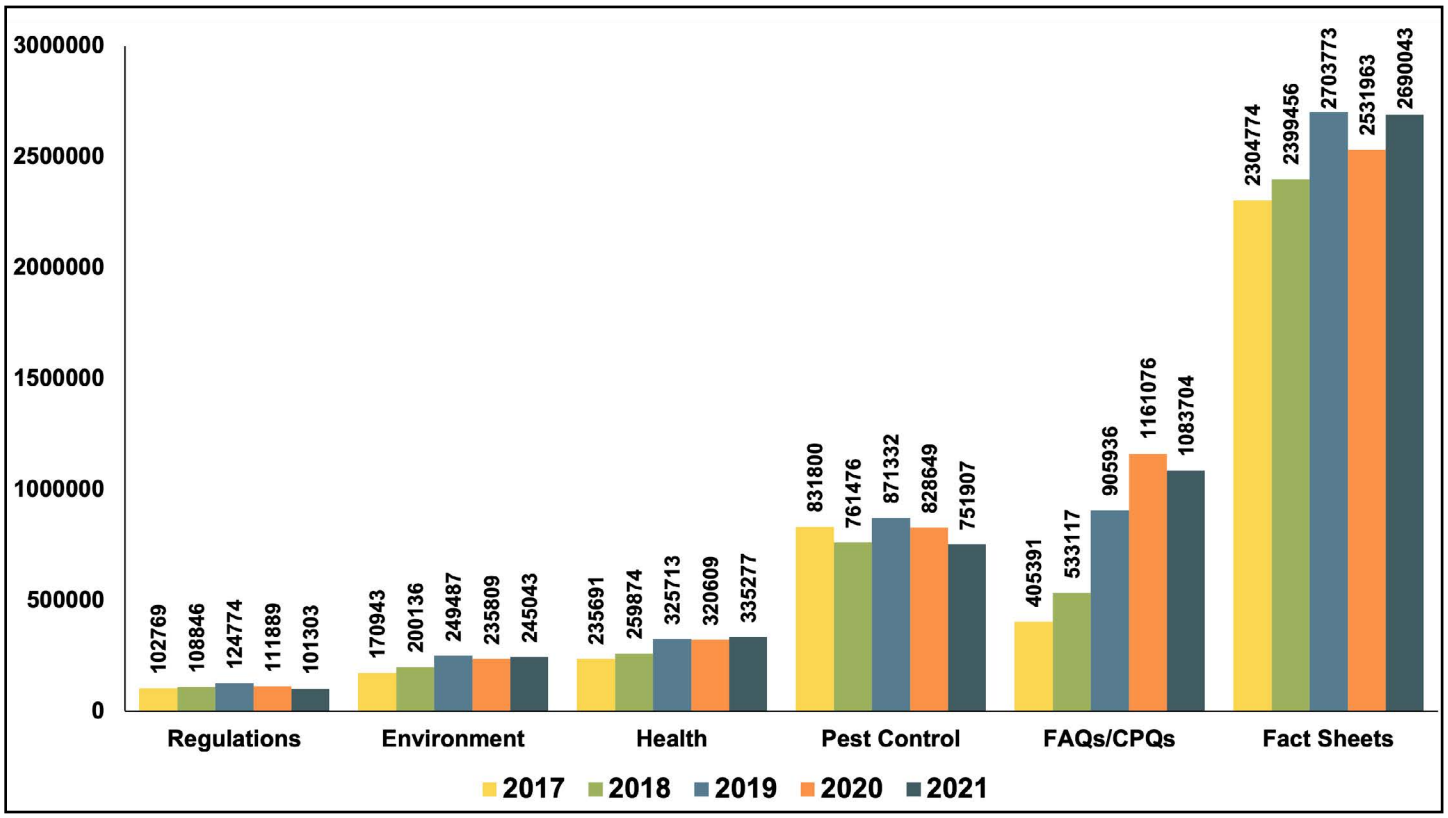
The most popular pages viewed were:

- NPIC home page (407,638)
- Diatomaceous earth general fact sheet (283,538)
- Neem oil general fact sheet (213,864)
- ¿Por qué tengo cucarachas en mi casa? (Why do I have cockroaches in my home?) (166,329)
- NPRO (150,462).

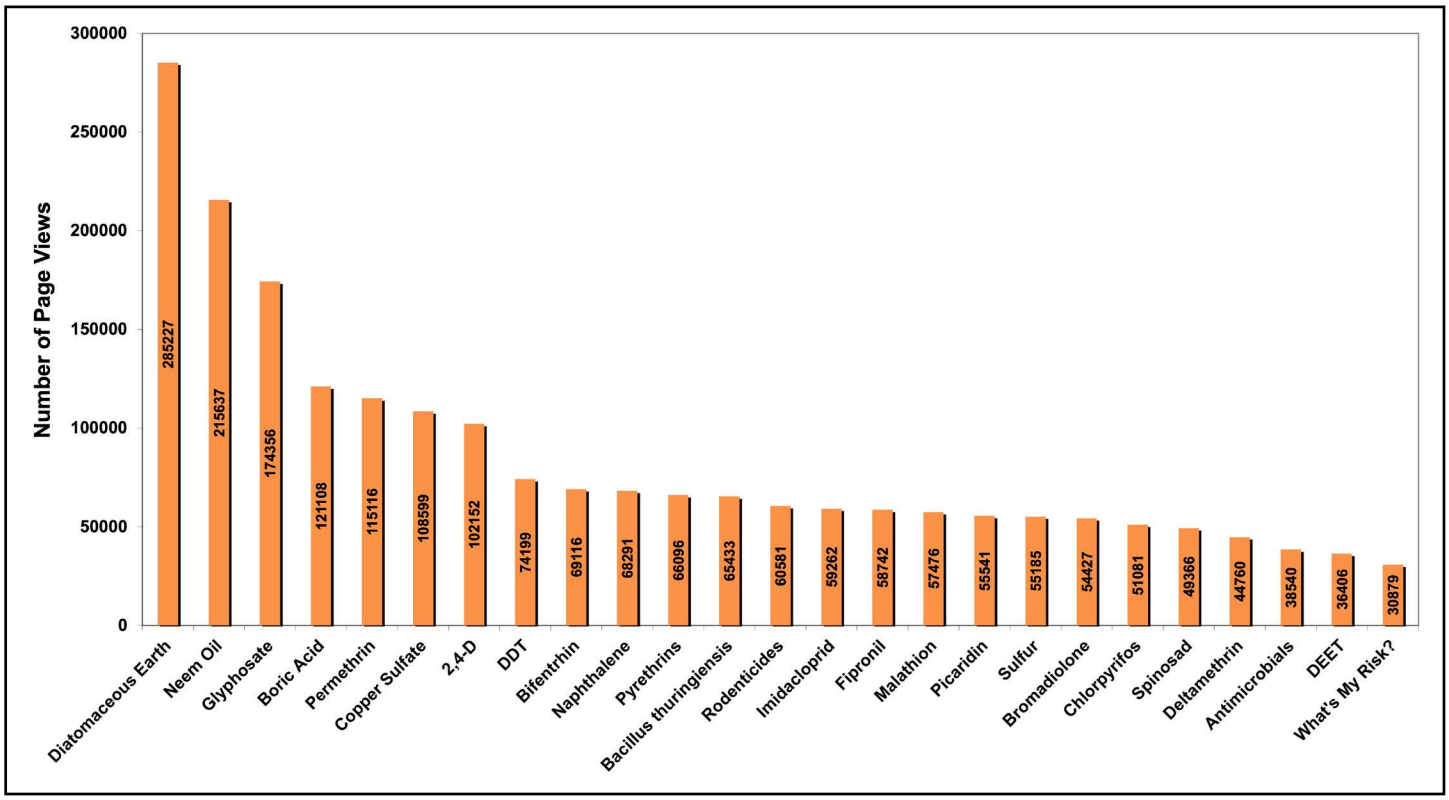
Table 4. Selected page views

Page Accessed	English page views	Spanish page views
Fact Sheets	2,656,566	33,477
FAQs/CPQs	385,727	697,977
Pest Control	413,527	338,380
Health and Safety	197,370	137,907
Environment	165,710	79,333
Regulations	91,935	9,368

Graph 4.2. Top 6 web pages viewed by topic



Graph 4.3. Top 25 active ingredient fact sheet pages viewed



5. Type of Inquirer

Table 5 summarizes the profession/occupation of individuals contacting NPIC. The majority of inquiries to NPIC are from the public. Of the 8,208 inquiries received, there were 7,291 (89%) from the public, 269 (3%) from pesticide manufacturers, 120 (1%) from federal, state, local government agencies, or schools, and 67 (1%) from human and animal medical personnel.

Chart 5 summarizes the 120 governmental entities that contacted NPIC during the grant year. Health agencies include health departments and WIC personnel. Government agencies include city, county, and other government entities without enforcement roles. Enforcement agencies include the US EPA, state pesticide regulatory agencies, and police, among others.

Chart 5. Inquiries from federal / state / local agencies (Total: 120)

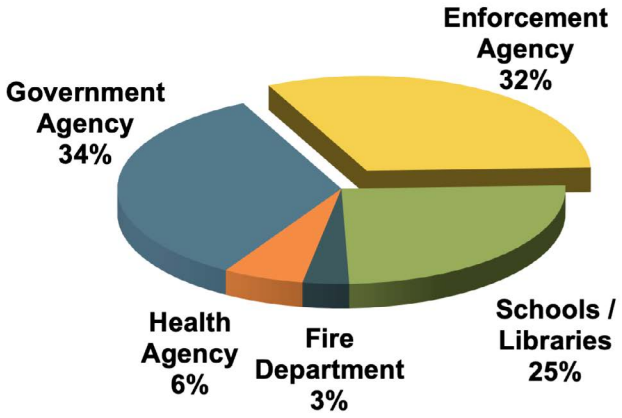


Table 5. Type of inquirer

Type of Inquirer	Total
General Public	7291
Federal/State/Local Agencies	
Government Agency	41
Enforcement Agency	38
Schools / Libraries	30
Health Agency	7
Fire Departments	4
Medical Personnel	
Human Medical	38
Animal / Vet / Clinic	29
Other	
Pesticide Mfg / Mktg Co	269
Pest Control	81
Farm	69
Labs / Consulting	32
Info Service / Unions	29
Retail Store / Nursery	23
Media	20
Master Gardener	16
Nonmigrant Ag Worker	12
Lawyer / Insurance	8
Beekeeper	7
Environmental Orgs	7
Vector Control	3
Migrant Ag Worker	2
Other	152
Grant Year Total =	8208

6. Type of Question

The questions received at NPIC are most often related to health (e.g., effects, risk, etc.), pest control (e.g., how to control a pest, pest habits, etc.), and application (e.g., methods, label clarity, etc.). “Other” questions (849) include all wrong numbers and people seeking their pest control companies, among others.

Questions about how to follow pesticide label directions were coded as “application” (972). Questions about regulations (927) range from “How do I get a new product registered?” to “Can the authorities make my neighbor stop spraying?”

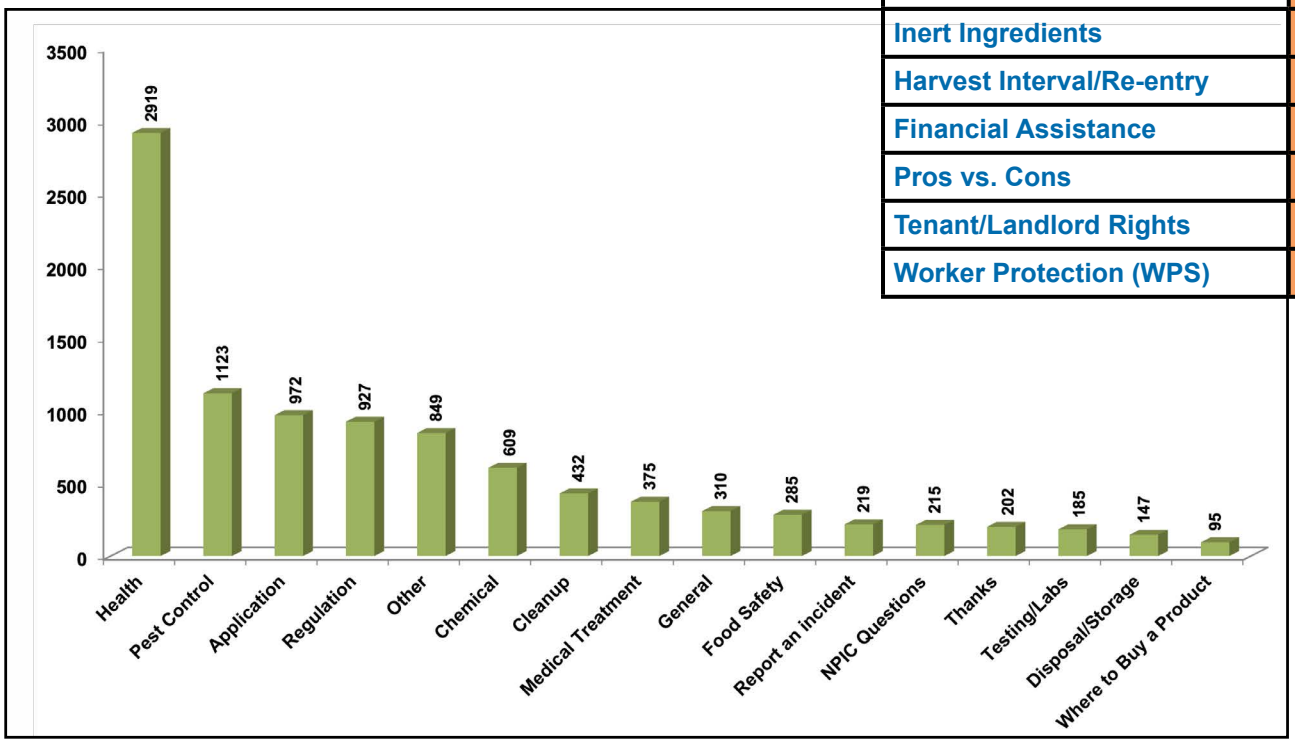
People contacted NPIC in order to report a pesticide incident 219 times. In these cases, NPIC provides people with appropriate local referrals for enforcement, as needed.

Inquiries may involve more than one type of question. Inquirers asked 10,203 questions during this grant year in the course of 8,208 inquiries.

Table 6. Type of question

Type of Question	Total
Health: human/domestic	2692
Pest Control	1123
Application	972
Regulation	927
Other	849
Chemical	609
Cleanup	432
Medical Treatment	375
General	310
Food Safety	285
Health: eco/wildlife	227
Report an incident	219
NPIC Questions	215
Thanks	202
Testing/Labs	185
Disposal/Storage	147
Where to Buy a Product	95
Just Wants Another Contact	91
Complaints	86
Inert Ingredients	44
Harvest Interval/Re-entry	36
Financial Assistance	34
Pros vs. Cons	31
Tenant/Landlord Rights	9
Worker Protection (WPS)	8

Graph 6. Type of question



7. Actions Taken

Primary actions:

NPIC specialists respond to inquiries in a variety of ways. The primary actions are summarized in Table 7.1. Most inquiries (6,784) were answered by providing information over the phone. Information was also sent via email in 1,426 cases. Upon request, NPIC brochures and other materials were mailed to people seven times during grant this period.

Table 7.1. Primary action taken

Primary Action Taken	Number of Inquiries
	2021
Verbal Info	6784
Emailed Info	1426
Handled Inquiry in Spanish	138
Interpreted via Language Line Services	109
Transferred to EC / PC	92
Transferred to Specialist / Voicemail	38
Mailed Info	10
Sent NPIC Outreach Material(s)	7

Risk reduction actions:

NPIC keeps track of certain conversation topics aimed at reducing pesticide risk. Specialists documented 4,275 risk reduction actions, detailed in Table 7.2.

Table 7.2. Risk reduction actions

Risk Reduction Action Taken	Number of Inquiries
	2021
Discussed Following the Label	1962
Discussed Ways to Minimize Exposure	1733
Discussed IPM Concepts	498
Discussed Environmental Protection	82

Referrals to other organizations:

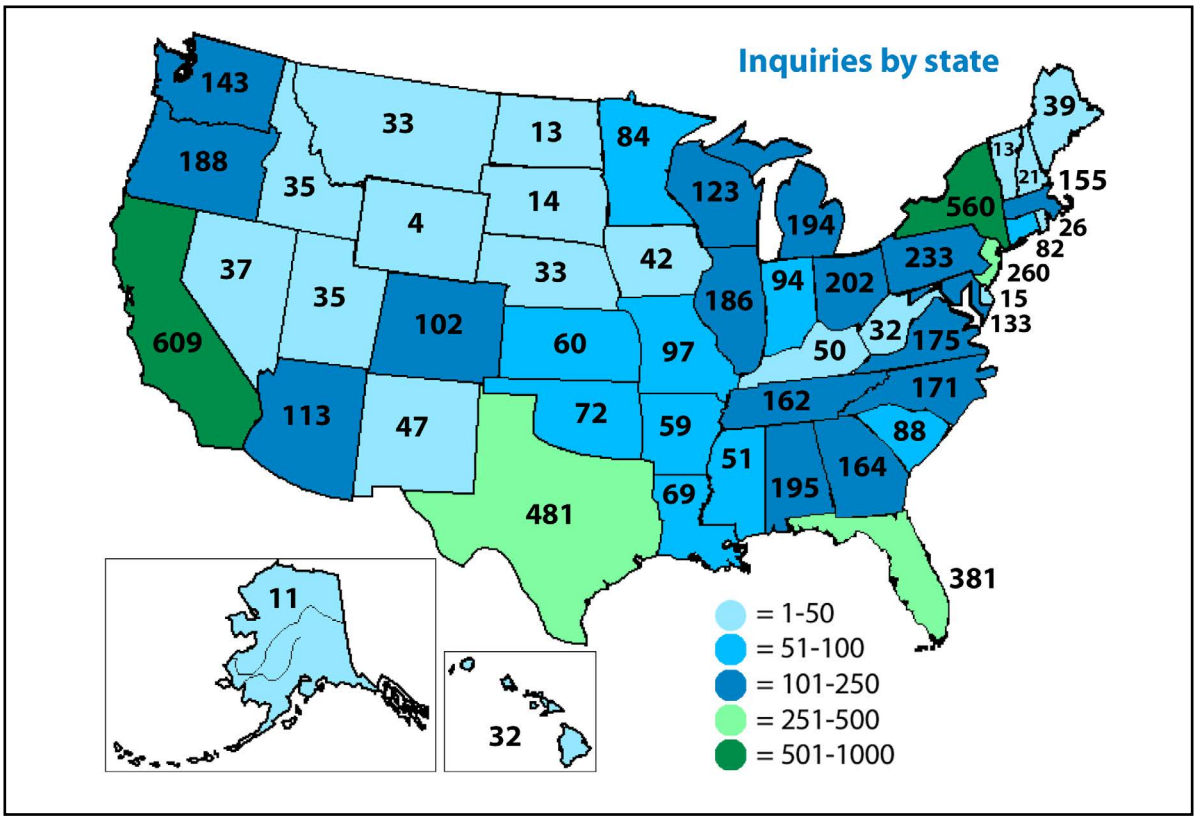
The number of referrals to various organizations is presented in Table 7.3. Specialists use their training and SOPs to evaluate the need for referrals, providing them only when the requested information is outside NPIC boundaries and there is an appropriate resource available to provide the information. Examples include “manufacturer/ distributor” for detailed application instructions and product complaints, “county extension” for pest control advice, and “state pesticide regulatory agencies” for enforcement.

Table 7.3. Referrals to other organizations

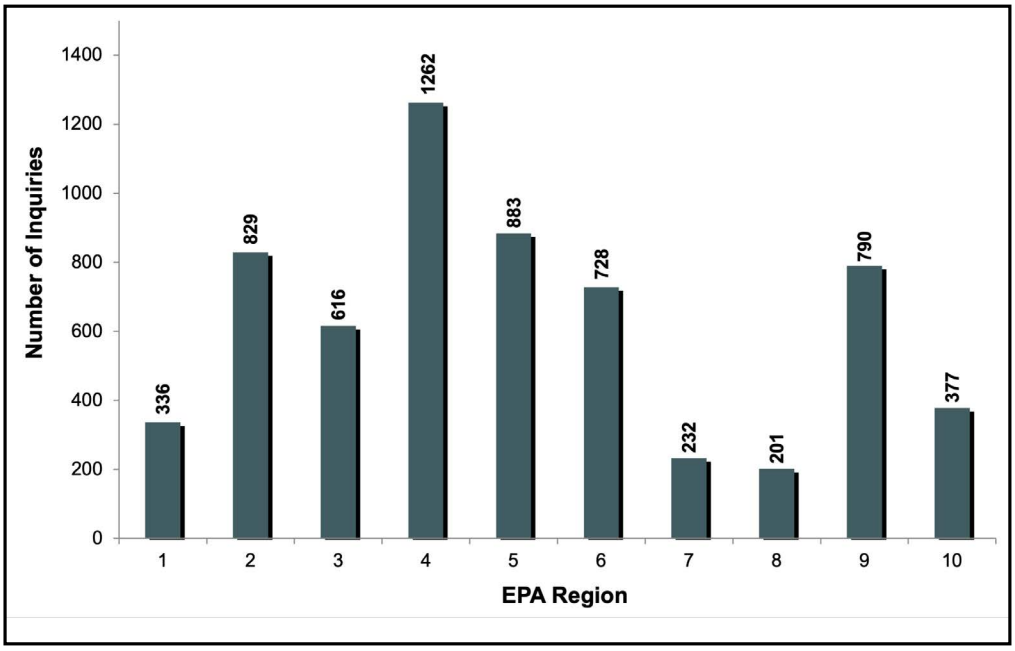
Organization Name	Number of Inquiries
	2021
Manufacturer / Distributor Contact	1588
NPIC Website	1270
County Extension Contact	960
State Lead Contact	830
Other Organization Contact	558
Poison Control Contact	454
EPA Website	346
EPA HQ / OPP Contact	310
EPA Region Contact	175
Hazardous Waste Contact	148
Department of Health Contact	141
Other State Agency Contact	131
Animal Poison Contact	120
Other Fed Agency Contact	63
OSHA Contact	16

8. Inquiries by State

The map below shows the number of inquiries received by NPIC from each state. The largest number of inquiries came from California, Florida, New York, and Texas. In addition to the states, NPIC received inquiries from Armed Forces Europe (1), Puerto Rico (9), District of Columbia (28), Canada (40), and other countries (243). Sometimes a state cannot be identified during the inquiry.



Graph 8. Inquiries by EPA region



Graph 8 summarizes inquiries by EPA region.

The top 5 regions with a known state were:

- Region 4 (15.4%)
- Region 5 (10.8%)
- Region 2 (10.1%)
- Region 9 (9.6%)
- Region 6 (8.9%)

9. Top 25 Active Ingredients for All Inquiries

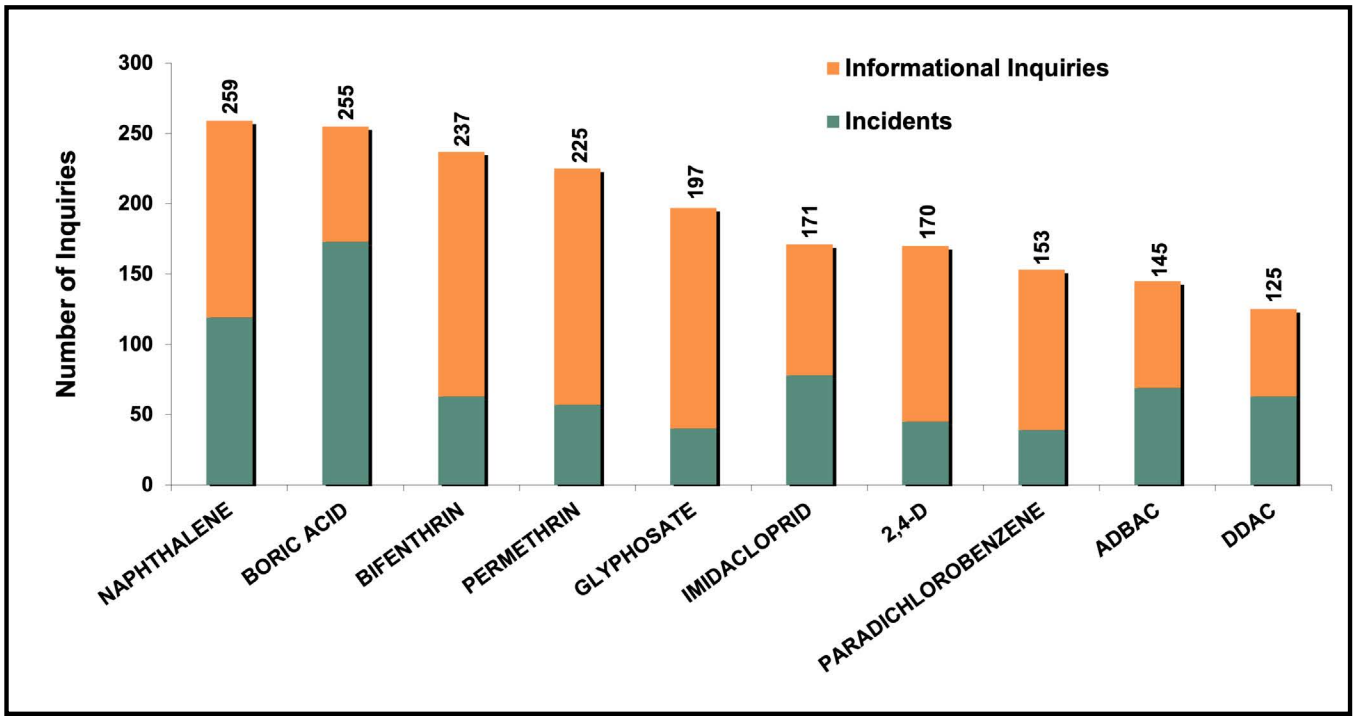
When inquiries to NPIC involve discussion of a specific product or active ingredient, specialists record the product and the active ingredient in the PID. Naphthalene was discussed in more inquiries than any other single active ingredient this year (Table 9, Graph 9). Of the 259 inquiries involving naphthalene, 119 (46%) were incidents. Note that an inquiry may involve discussion of several active ingredients.

Graph 9 illustrates the number of informational and incident inquiries for the top active ingredients discussed during the grant year.

Table 9. Top 25 active ingredients for all inquiries

Active Ingredient	Total Inquiries	Incident Inquiries	Information Inquiries
NAPHTHALENE	259	119	140
BORIC ACID	255	173	82
BIFENTHRIN	237	63	174
PERMETHRIN	225	57	168
GLYPHOSATE	197	40	157
IMIDACLOPRID	171	78	93
2,4-D	170	45	125
PARADICHLOROBENZENE	153	39	114
ADBAC	145	69	76
DDAC	125	63	62
DICAMBA	125	34	91
NEEM OIL	122	34	88
PIPERONYL BUTOXIDE	110	37	73
PYRETHRINS	107	30	77
MALATHION	106	45	61
SILICON DIOXIDE	95	23	72
DELTAMETHRIN	93	36	57
CYPERMETHRIN	90	48	42
FIPRONIL	86	25	61
TRICLOPYR	82	24	58
MECOPROP	78	21	57
LAMBDA-CYHALOTHRIN	74	32	42
BACILLUS THURINGIENSIS	64	17	47
CARBARYL	62	17	45
SULFUR	59	24	35

Graph 9. Top 10 pesticide active ingredients for all inquiries



10. Incident Type

An incident may involve a spill, misapplication, exposure, adverse effects, or any combination of these events.

There were 1,652 pesticide exposures and 658 accidents. Charts 10.1 and 10.2 provide further details. Among reported exposures, inhalation was the most common route of exposure (30%), followed by dermal contact (24%) and ingestion (17%). When a specific exposure route could not be identified, specialists documented an "Unknown" exposure route (12%).

Indoor spills (76) were reported more often than outdoor spills (17). Among reported misapplications (422), 77% were misapplications by the homeowner or resident.

Chart 10.1. Pesticide exposures (Total: 1,652)

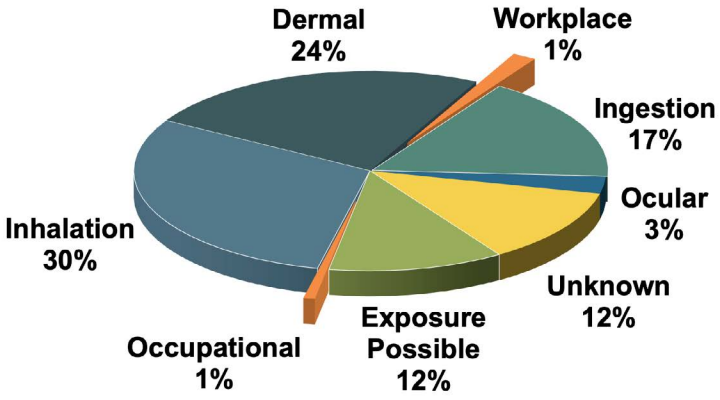


Chart 10.2. Pesticide accidents (Total: 658)

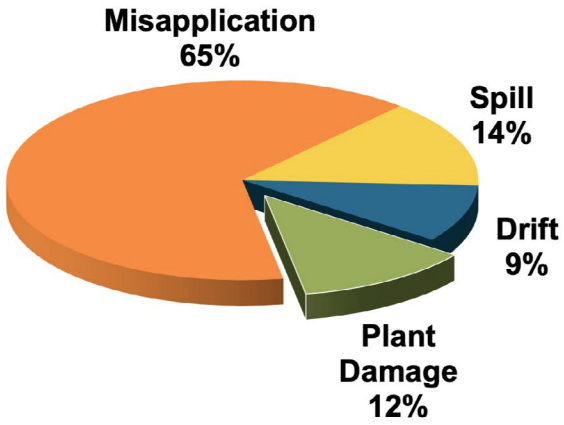


Table 10. Incident Type

Type of Incident	Total
Exposures	
Inhalation	493
Dermal	397
Ingestion	279
Unknown	200
Exposure Possible	198
Ocular	45
Workplace	27
Occupational	13
Accidents	
Misapp - Homeowner	324
Plant Damage	79
Spill - Indoor	76
Drift	61
Misapp - Other	43
Misapp - PCO	39
Spill - Outdoor	17
Misapp - Unknown	16
Other	3
Total =	2310

11. Top 25 Active Ingredients for Incidents

The most common active ingredients reported during incident inquiries are listed in Table 11. The table identifies the number of exposures or accidents involving humans, animals, and other entities, such as environmental entities and property. Naphthalene and paradichlorobenzene were involved in more reported exposures/accidents than any other active ingredients. Both are commonly found in mothballs and similar products.

In Table 11, the top three active ingredients for human and animal exposures are highlighted below. Naphthalene, paradichlorobenzene, and boric acid were involved in the highest number of exposures for human incidents. The top three active ingredients with the highest number of exposures involving animals were boric acid, imidacloprid, and iron phosphate.

Table 11. Top 25 active ingredients for incidents reported to NPIC[1]

Active Ingredient	Human Exposures	Animal Exposures	Other Accidents
NAPHTHALENE	194	20	227
PARADICHLOROBENZENE	158	13	189
BORIC ACID	62	104	12
IMIDACLOPRID	31	37	16
BIFENTHRIN	32	15	20
ADBAC	56	4	14
PERMETHRIN	33	12	17
2,4-D	28	10	20
DDAC	49	4	13
GLYPHOSATE	28	4	18
IRON PHOSPHATE	1	30	0
CYPERMETHRIN	31	4	14
FLUMETHRIN	4	29	0
MALATHION	28	1	17
BROMETHALIN	3	21	5
PIPERONYL BUTOXIDE	25	5	11
DICAMBA	20	9	7
DELTAMETHRIN	29	5	7
LAMBDA-CYHALOTHRIN	23	6	7
PYRETHRINS	26	2	9
NEEM OIL	30	1	4
ABAMECTIN	4	16	2
FIPRONIL	10	9	7
BROMADIOLONE	4	15	5
TRICLOPYR	12	6	7

[1] Note that incidents may include multiple humans, animals, and other entities. See Table 9 for a count of incident inquiries by active ingredient.

12. Locations of Exposure or Accident

For incidents, specialists record the location of an exposure or accident. Of the 2,075 locations where exposures or accidents were documented, 81% occurred in the home or yard, 5% occurred at the intersection of home and agricultural property, and 3% occurred in an agricultural setting. Table 12 identifies the number of exposures or accidents reported to NPIC in a variety of other locations.

Based on inquiries, NPIC saw a slight increase in incidents occurring at natural (e.g., ponds, lakes, streams) and treated water locations in 2021 (14) compared to 2020 (13).

Table 12. Location of exposure/accident

Location	Total
Home - Inside	968
Home - Outside	720
Ag/urban interface	111
Agricultural	66
Vehicle	35
School/Day Care	31
Other	26
Office Building	23
Roadside/Right-of-Way	21
Park/Golf Course	18
Retail Store	16
Pond/Lake/Stream	9
Health Care Facility	8
Industrially Related	8
Nursery/Greenhouse	6
Treated Water	5
Food Service/Restaurant	4
Total =	2075

13. Environmental Impact

Table 13 presents the type of incidents reported for each kind of environmental or built entity. The most common environmental incidents reported to NPIC involve pesticide misapplications to buildings by residents (137).

Table 13. Reported environmental impacts

	Drift	Misapplication: Resident	Misapplication: Other	Misapplication: PCO	Misapplication: Unknown	Other	Plant Damage	Spill: Indoor	Spill: Outdoor
Agricultural Crop	8	0	0	2	0	0	8	0	0
Building - Home/Office	4	137	30	16	9	0	0	53	4
Home Garden	21	51	0	10	1	0	35	0	0
Home Lawn	0	35	3	2	1	1	5	0	2
Natural Water	0	0	0	1	1	0	0	0	1
Other[1]	0	5	1	0	0	0	0	0	3
Property	3	20	1	3	1	0	0	14	1
Soil/Plants/Trees	21	44	3	3	3	0	31	0	4
Treated Water	0	1	1	0	0	2	0	0	2
Vehicle	4	2	3	0	0	0	0	8	0

[1] "Other" refers to miscellaneous items not included in previous categories (e.g., sidewalk, food).

14. Consistency Index

Table 14 and Graphs 14.1 and 14.2 summarize the consistency index (CI) assignments for all incidents that were eligible to be classified. An incident is eligible to be classified if there was an exposed person or animal with reported signs/symptoms and at least one active ingredient was known.

Of the total number of entities assigned a CI (1,342), 14% of the cases were assigned a consistency index of "consistent," 14% were assigned an index of "inconsistent," and 72% were considered "unclassifiable." Because none of the information reported to NPIC has been verified or substantiated by independent investigation, uncertainty is common. This is the case with many forms of self-reported data, which are often used for monitoring public health. As a result, the consistency index assignment for "definite" is rarely assigned.

All consistency index assignments are reviewed by a quality assurance specialist. Dr. Berman, DVM, provides additional consultation for human and animal incidents.

What is the Consistency Index?

The consistency index is an estimate by NPIC as to the likelihood that the reported signs and symptoms were "**consistent"** or "**inconsistent"** with published reports/materials for the identified active ingredients, in the context of the reported pesticide exposure.

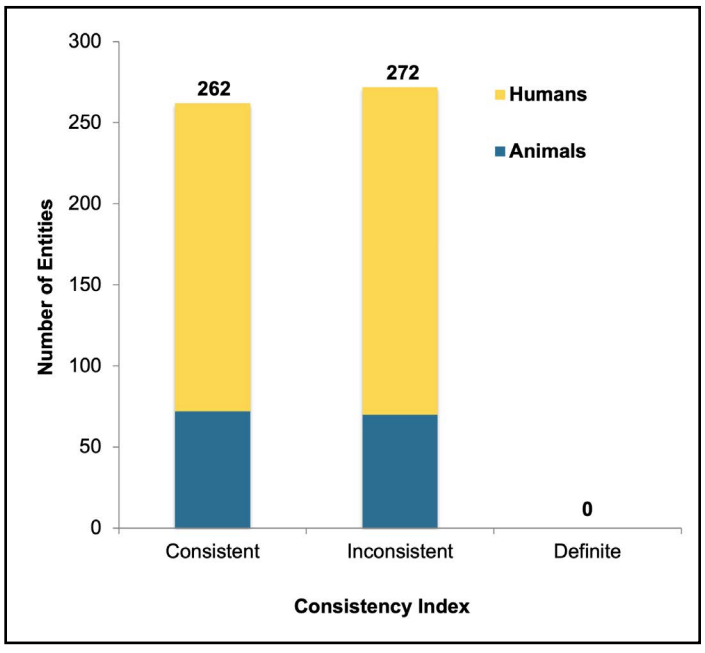
The consistency index is "**unclassifiable"** when one or more of the following criteria apply:

- An exposure occurred, but no symptoms were reported.
- No active ingredient could be identified.
- The presence or absence of symptoms was unknown.

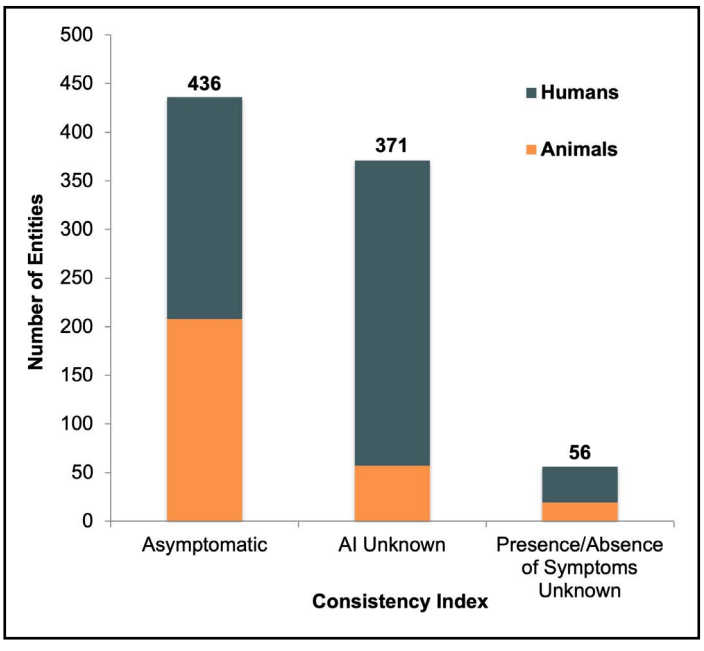
Table 14. Incident inquiries by consistency index (CI)

CI for All Categories of Entities					Breakdown of Human-Entity Incident Inquiries			
Consistency Index (CI)	Humans	Animals	Other	Total	Male	Female	Groups	Gender Not Stated
Unclassifiable	523	285	549	1357	180	314	70	13
Definite	0	0	0	0	0	0	0	0
Consistent	190	72	0	262	72	104	9	2
Inconsistent	202	70	0	272	73	123	4	0

Graph 14.1. Consistency index for incidents



Graph 14.2. Unclassifiable CI categories



15. Severity Index

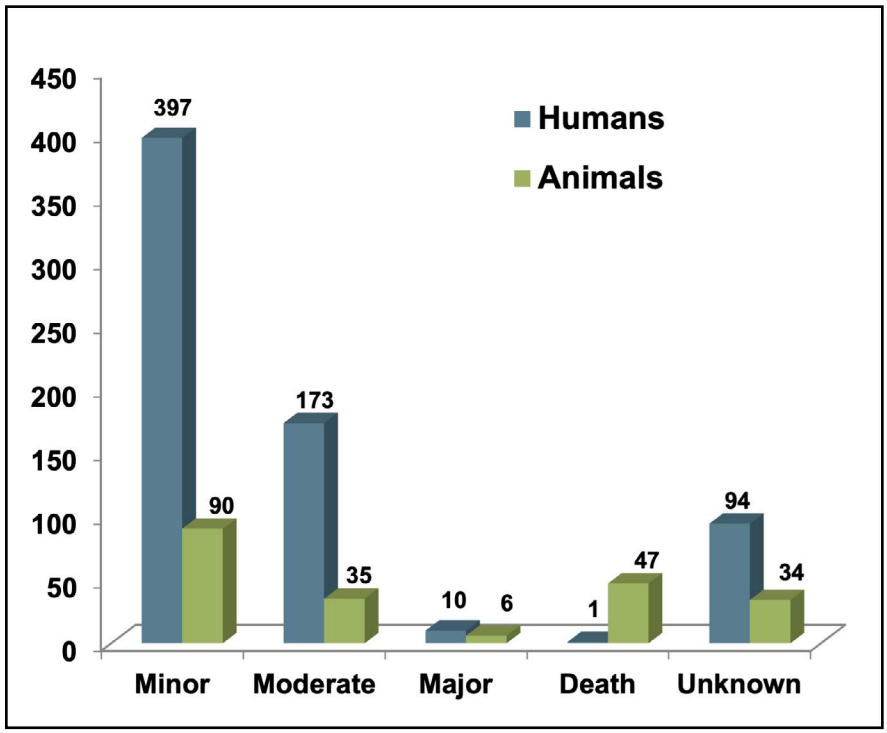
Table and Graph 15 summarize the severity of symptoms for all human and animal incidents reported to NPIC.

For all human pesticide incidents with reported exposures, 41% had minor symptoms, 18% had moderate symptoms, and 1% had major symptoms. Symptoms were unknown in 10% of human incidents. In 31% of human exposure incidents, the person reported that they did not experience any symptoms.

Table 15. Human and animal incidents by severity index (SI)

SI for All Categories of Entities				Breakdown of Human-Entity Incident Inquiries			
Severity Index (SI)	Humans	Animals	Total	Male	Female	Groups	Gender Not Stated
Minor	397	90	487	127	244	24	2
Moderate	173	35	208	69	98	6	0
Major	10	6	16	4	5	0	1
Death	1	47	48	0	0	0	1
Unknown	94	34	128	30	37	17	10
Asymptomatic	297	214	511	95	166	35	1

Graph 15. Severity index for human and animal incidents



What is the Severity Index?

The severity index is an estimate by NPIC as to the severity of signs/symptoms reported for incidents. The severity of signs/symptoms can be categorized as minor, moderate, major, death, unknown, or asymptomatic. The NPIC severity index is based on criteria used by poison control centers in their National Poison Data System (NPDS).

16. Description of Entities

The chart and graphs below provide a summary of entities involved in pesticide incidents. Of the 1,950 entities involved in incidents reported to NPIC during this period, 50% were human, 22% were animals, and 28% were environmental nontarget entities. Other entities (8, 0.4%) are miscellaneous items (e.g., sidewalk, food). Pesticide incidents may involve multiple entities.

Graph 16.1. Humans

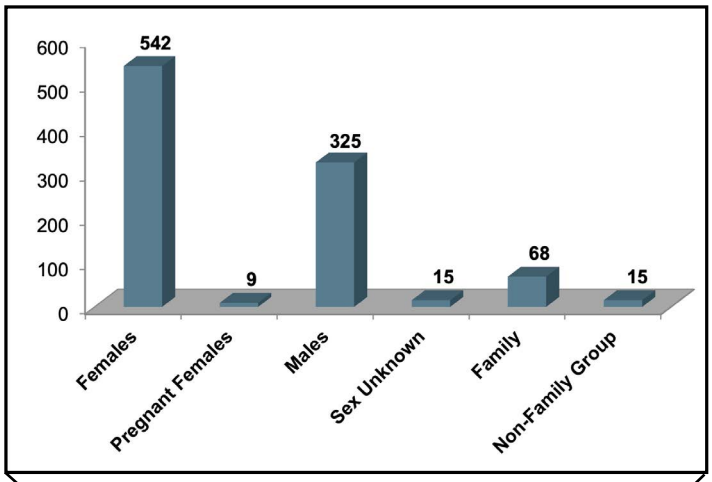
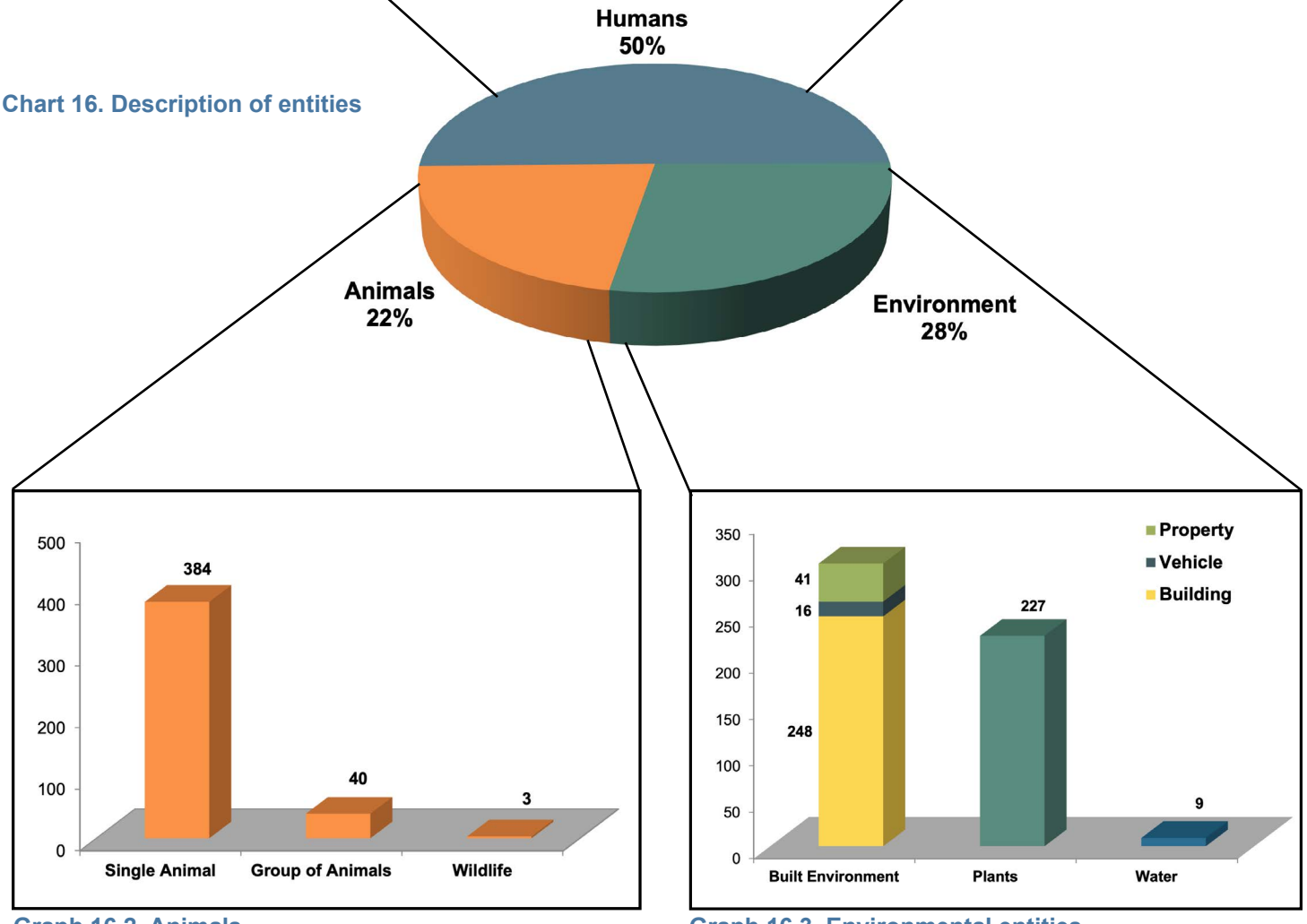


Chart 16. Description of entities



Graph 16.2. Animals

Graph 16.3. Environmental entities

17. Reported Deaths

Of the 427 animal entities involved in pesticide incidents, 47 deaths were reported. Of those, there were 37 animal deaths where the active ingredients were known (Table 17.1).

Table 17.2 describes reported deaths with known active ingredient(s) where signs and/or symptoms were consistent with literature, in the context of the reported exposure scenario.

Table 17.1. Reported deaths with known active ingredient

Reported Deaths	Total
Animal Deaths	
Single Animal	26
Group of Animals	8
Wildlife	3
Total =	37

A human death was reported to NPIC by email correspondence. Few details were available, and no follow-up information could be obtained. The death of an adult relative was reported after ingestion of an unknown rodenticide. The subsequent autopsy reported “suffocation”. Additional details of the product and incident were not available.

An investigator from a coroner’s office asked about testing for pyrethroids after the death of an inmate four months prior. The inmate reportedly soaked paper with an unknown bug spray that was then burned then inhaled. This report was considered “information only” as the investigator did not have sufficient knowledge about the scenario and was unable to provide essential information. This report was provided to the EPA Project Officer. This report did not qualify for inclusion in the NPIC dataset and statistics.

Table 17.2. Reported animal deaths with compatible signs/symptoms

PESTICIDE PRODUCT	ACTIVE INGREDIENT	INCIDENT TYPE	ENTITY	CONSISTENCY INDEX	STATE
STEELCOAT PLUS FOR DOGS	FIPRONIL | METHOPRENE	Exposure: Dermal	Single Animal	Consistent	WA
MLB MAX PRO	BIFENTHRIN	Exposure: Possible	Wildlife	Consistent	CA
KONTROL 30-30 CONCENTRATE	PERMETHRIN | PIPERONYL BUTOXIDE	Exposure: Possible	Group of Animals	Consistent	TX
LAMCAP	LAMBDA-CYHALOTHRIN	Exposure: Dermal	Group of Animals	Consistent	OH
DREXEL CHLORPYRIFOS 15G	CHLORPYRIFOS	Exposure: Possible	Group of Animals	Consistent	CA
N/A	BORIC ACID	Exposure: Ingestion	Single Animal	Consistent	TN
N/A	ZINC PHOSPHIDE	Exposure: Ingestion	Group of Animals	Consistent	FN
N/A	ZINC PHOSPHIDE	Exposure: Possible	Group of Animals	Consistent	FN
ETOXAZOLE | ENTRUST | TETRASAN	ETOXAZOLE | SPINOSAD	Exposure: Possible	Group of Animals	Consistent	CA
CONTRAC ALL-WEATHER BLOX	BROMADIOLONE	Exposure: Possible	Single Animal	Consistent	TX
SILENCE	LAMBDA-CYHALOTHRIN	Exposure: Possible	Group of Animals	Consistent	WI
MGK FORMULA 2964	PIPERONYL BUTOXIDE | ESFENVALERATE | PRALLETHRIN	Exposure: Possible	Single Animal	Consistent	OR
BONIDE MOLETOX II	ZINC PHOSPHIDE	Exposure: Possible	Wildlife	Consistent	WI

18. Entity Age

Table 18 and Graph 18 summarize the ages of people involved in incidents reported to NPIC. Among 891 single human entities, NPIC was able to collect the person's age 79% of the time. NPIC aims to capture the age for all human entities; occasionally callers decline to provide that information.

Among the 701 humans with known age, 13% were children (ages 4 and under), and 29% were seniors (ages 65 and over).

Graph 18. Age of people involved in reported incidents

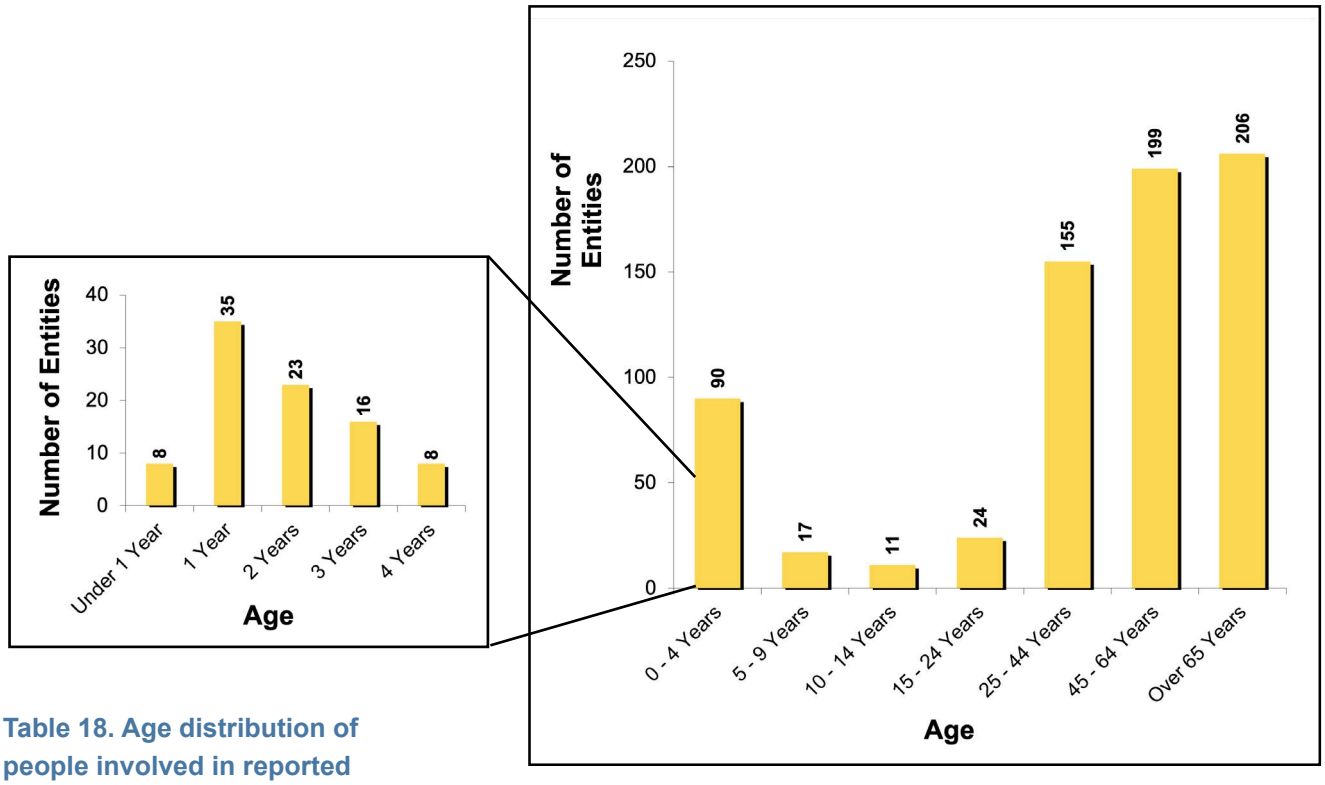


Table 18. Age distribution of people involved in reported incidents

Age Category	Total
Under 1 year	8
1 year	35
2 years	23
3 years	16
4 years	8
Total (0 - 4 years) =	90
5 - 9 years	17
10 - 14 years	11
15 - 24 years	24
25 - 44 years	155
45 - 64 years	199
Over 65 years	206

19. Notable Exposures

There were 1,950 entities potentially exposed to pesticides in 1,484 reported incidents.

Figure 19.1

There were 1,484 pesticide incidents reported, involving 1,950 exposed entities (people, animals, buildings, plants, soil, and water).

Total = 1,950 entities

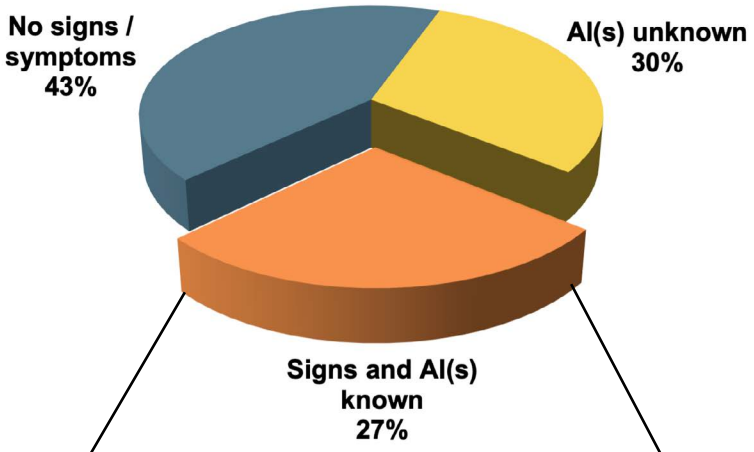


Figure 19.2

Human and animal entities potentially exposed to a known pesticide, with reported signs/ symptoms.

Total = 534 entities

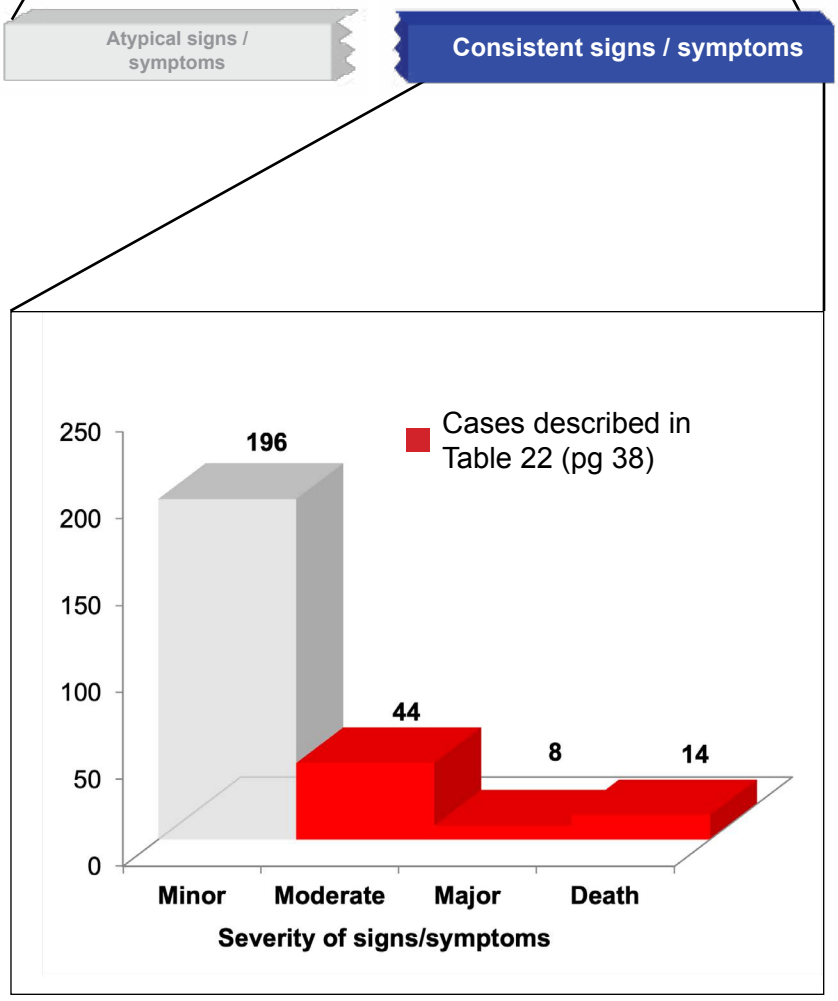


Figure 19.3

Human and animal entities potentially exposed to a known pesticide with reported signs/ symptoms that were **consistent** with reports in the literature for that pesticide.

Total = 262 entities

Signs and symptoms are compared to the open literature, including fact sheets, case reports, textbooks, and articles. Furthermore, the timing of onset and duration are considered.

Pages 38-42 describe the 66 entities represented by the red bars in Figure 19.3.

VETERINARY REPORTING

NPIC developed a web-based portal for veterinarians to report adverse reactions to pesticides among animals. NPIC does not verify or conduct quality assurance of the information submitted into the Veterinary Incident Reporting Portal (VIRP).

Veterinarians submitted 15 incident reports to the VIRP involving 15 animals (12 canine and 3 feline). All VIRP reports are forwarded to EPA quarterly, in their entirety.

Table 20.1 and Chart 20.1 summarize the formulation of products that were involved in the incidents reported by veterinarians. About a third of incidents were spot-on products (31%).

Table 20.2 and Chart 20.2 summarize the pesticide types that were involved in the incidents reported by veterinarians. Most of the products reported in incidents were insecticides (72%).

Table 20.1. Product formulations as reported in VIRP

Known Formulations	Number of Products
	2021
Spot-on	4
Other	4
Liquid	2
Pellet	2
Shampoo	1

Chart 20.1. Product formulations reported in VIRP

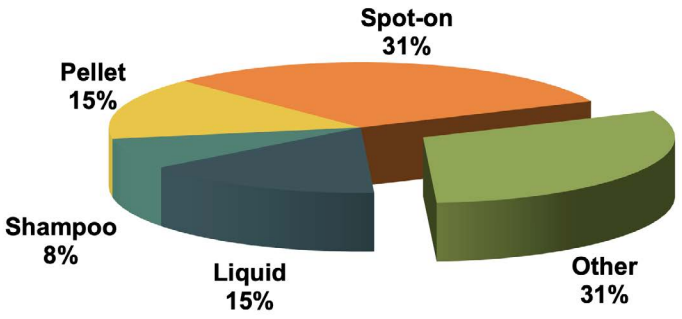


Table 20.2. Product types as reported in VIRP

Product Type	Number of Products
	2021
Insecticide	10
Rodenticide	1
Herbicide	1
Molluscicide	1
Other	1

Chart 20.2. Product types reported in VIRP

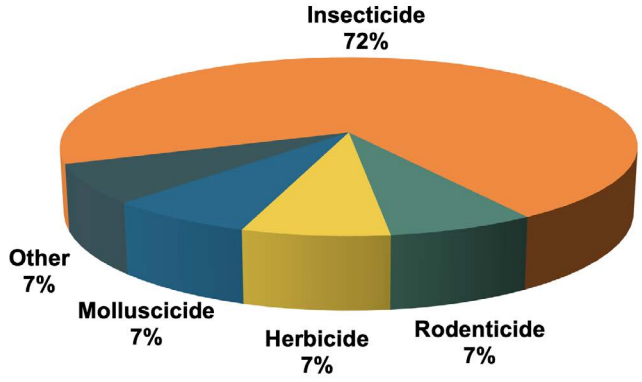


Table 20.3 and Chart 20.3 show the types of animal symptoms reported to the VIRP. Symptoms are classified as dermatological (e.g., irritant, sloughing, ulcer), gastrointestinal (e.g., diarrhea, vomiting), neurological (e.g., depression, excited state, seizures, tremors), none, or other. Multiple symptoms may be reported for each animal. Of the reported symptoms, 48% were classified as neurological, 15% were classified as gastrointestinal, 15% were classified as none, 11% were classified as dermatological, and 11% were classified as other.

Table 20.3. Animal symptoms as reported in VIRP

Symptom	Number of Animals
	2021
Dermatological: Irritant	2
Dermatological: Ulcer	1
Dermatological: Sloughing	0
Dermatological total	3
Gastrointestinal: Vomiting	2
Gastrointestinal: Diarrhea	2
Gastrointestinal total	4
Neurological: Tremor	6
Neurological: Excited	3
Neurological: Depression	2
Neurological: Seizure	2
Neurological total	13
None	4
Other	3

Chart 20.3. Animal symptoms as reported in VIRP

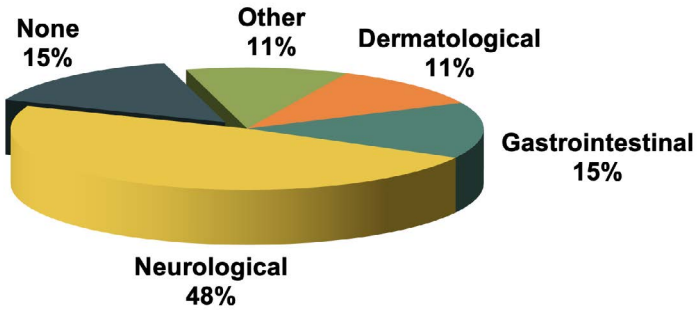


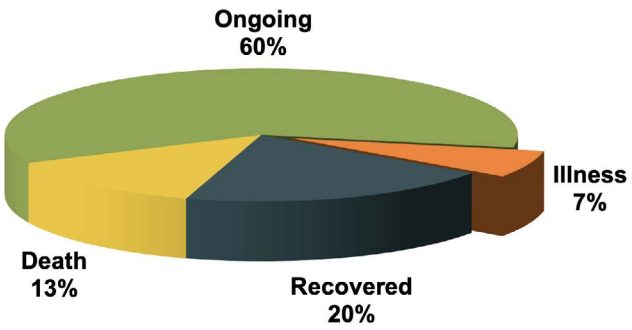
Table 20.4 and Chart 20.4 summarize the outcomes associated with each animal incident reported in the VIRP. Multiple animals may be involved in each VIRP report. Thus, totals reflect the number of animals, as opposed to the number of reports.

Of the total number of animals involved in VIRP incident reports, 60% of the cases were ongoing. The affected animals had recovered at the time of the report in 20% of cases. Thirteen percent (13%) of the outcomes reported an animal death.

Table 20.4. Incident outcomes as reported in VIRP

Outcome	Number of Animals
	2021
Ongoing	9
Recovered	3
Death	2
Illness	1

Chart 20.4. Incident outcomes as reported in VIRP



In 2009, NPIC developed a web-based portal to facilitate reporting of ecological incidents. It was designed by the US EPA Office of Pesticide Programs (OPP), built and hosted by Oregon State University.

NPIC does not verify reports through independent investigation, nor does NPIC conduct quality assurance of the information submitted into the Eco-portal. NPIC provides each report, without modification, to OPP quarterly, in their entirety. More recently, NPIC developed programming to make that delivery automatic and immediate.

Reports submitted to the Eco-portal in 2021 involved possible exposures to mammals (36), bees (31), birds (3), reptiles (2), and fish (1). Table 21.1 summarizes the active ingredients involved in the 73 reports submitted to the Eco-portal.

Table 21.1. Active ingredients involved in the Eco-reports

Active Ingredient	Quantity
BRODIFACOUM	36
UNKNOWN	27
BROMADIOLONE	12
ANTICOAGULANT	3
ATRAZINE	2
PERMETHRIN	2
PHENOTHRIN	2
TETRAMETHRIN	2
2,4-D	1
BIFENTHRIN	1
BOSCALID	1
DIPHACINONE	1
FLUOPYRAM	1
GERANIOL	1
METOLACHLOR	1
NAPHTHALENE	1
NOVALURON	1
PARADICHLOROBENZENE	1
PEPPERMINT OIL	1
PRALLETHRIN	1
PYRETHRIN	1
ROSEMARY OIL	1
THYMOL	1

Table 22. NPIC incidents with compatible signs/symptoms that were greater than "minor" in severity							
Pesticide Product	Active Ingredient	Incident Type	Entity[1]	Consistency Index	Severity Index	State	Log Number[2]
J.T. EATON KILLS BED BUGS	DELTAMETHRIN	Exposure: Unknown	Male	Consistent	Moderate	LA	237
ORTHO PLUS	MALATHION	Exposure: Inhalation	Male	Consistent	Moderate	NE	304
STEELCOAT PLUS FOR DOGS	FIPRONIL | METHOPRENE	Exposure: Dermal	Single Animal	Consistent	Death	WA	529
MLB MAX PRO	BIFENTHRIN	Exposure: Possible	Wildlife	Consistent	Death	CA	1081
HOTSHOT DIATOMACEOUS EARTH	SILICON DIOXIDE	Exposure: Possible	Male	Consistent	Moderate	MD	1118
N/A	SULFUR	Exposure: Dermal	Female	Consistent	Moderate	NH	1410
PHOSFUME	ALUMINUM PHOSPHIDE	Exposure: Unknown	Female	Consistent	Major	AR	1466
KONTROL 30-30 CONCENTRATE	PERMETHRIN | PIPERONYL BUTOXIDE	Exposure: Possible	Group of Animals	Consistent	Death	TX	1586
N/A	DICAMBA	Exposure: Dermal	Male	Consistent	Moderate	OK	1623
TALSTAR	BIFENTHRIN	Exposure: Dermal	Male	Consistent	Moderate	GA	1827
ORANGE GUARD	D-LIMONENE	Exposure: Possible	Single Animal	Consistent	Moderate	CA	2051
TOM CAT	BROMETHALIN	Exposure: Ingestion	Single Animal	Consistent	Moderate	VA	2053
MAXFORCE IMPACT ROACH BAIT | ZOECON GENTROL AEROSOL | NIBOR BORATE INSECTICIDE AND FUNGICIDE | TEMPRID SC-F INSECTICIDE | ZOECON GENTROL DISC | BORACTIN | DM DUST 0.05% INSECTICIDE	CYFLUTHRIN | DELTAMETHRIN | BORIC ACID | HYDROPRENE | IMIDACLOPRID	Exposure: Unknown | Exposure: Inhalation	Male	Consistent	Moderate	VA	2106
TALSTAR	BIFENTHRIN	Exposure: Dermal	Single Animal	Consistent	Moderate	VA	2115
HOT HOT BED BUG KILLER	LAMBDA-CYHALOTHRIN | IMIPROTHRIN	Exposure: Inhalation | Exposure: Dermal	Male	Consistent	Moderate	TX	2187

1. Human entities are described as "male" and "female," regardless of the person's age.
2. When a log number appears in the table more than once, it reflects multiple exposed entities reported in a single incident.

Table 22. NPIC incidents with compatible signs/symptoms that were greater than "minor" in severity							
Pesticide Product	Active Ingredient	Incident Type	Entity[1]	Consistency Index	Severity Index	State	Log Number[2]
GOPHER BAIT	ZINC PHOSPHIDE	Exposure: Possible	Single Animal	Consistent	Moderate	CA	2241
TURF BUILDER PLUS 2	2,4-D | MECOPROP	Exposure: Possible	Single Animal	Consistent	Moderate	OR	2390
PNR1427 INSECTICIDE	FLUMETHRIN | IMIDACLOPRID	Exposure: Dermal	Single Animal	Consistent	Moderate	MA	2405
N/A	BROMADIOLONE	Exposure: Ingestion	Single Animal	Consistent	Moderate	AL	2457
ELIMINATOR FIRE ANT KILLER PLUS GRANULES	BIFENTHRIN	Exposure: Possible	Single Animal	Consistent	Moderate	GA	2578
RM43	GLYPHOSATE | IMAZAPYR	Exposure: Dermal	Female	Consistent	Moderate	NC	2673
ZEROTOL	PEROXYACETIC ACID | HYDROGEN PEROXIDE	Exposure: Inhalation | Exposure: Ocular | Occupational Exposure | Exposure: Dermal	Male	Consistent	Major	WA	2702
LAMCAP	LAMBDA-CYHALOTHRIN	Exposure: Dermal	Group of Animals	Consistent	Death	OH	2782
PAZARO SC FUNGICIDE | LAMCAP	LAMBDA-CYHALOTHRIN	Exposure: Unknown	Female	Consistent	Moderate	OH	2782
BITHOR SC	BIFENTHRIN | IMIDACLOPRID	Exposure: Unknown	Female	Consistent	Moderate	AZ	2963
SPECTRACIDE WEED STOP	2,4-D | DICAMBA | MECOPROP	Exposure: Possible	Single Animal	Consistent	Major	TX	3026
JT EATON NECTUS SOFT BAIT 2G SECOND GENERATION RODENTICIDE	BROMADIOLONE	Exposure: Ingestion	Single Animal	Consistent	Major	NY	3044
N/A	CITRIC ACID	Exposure: Unknown	Male	Consistent	Moderate	ID	3062
DREXEL CHLORPYRIFOS 15G	CHLORPYRIFOS	Exposure: Possible	Group of Animals	Consistent	Death	CA	3136
DREXEL CHLORPYRIFOS 15G	CHLORPYRIFOS	Exposure: Inhalation	Male	Consistent	Moderate	CA	3136

1. Human entities are described as "male" and "female," regardless of the person's age.
2. When a log number appears in the table more than once, it reflects multiple exposed entities reported in a single incident.

Table 22. NPIC incidents with compatible signs/symptoms that were greater than "minor" in severity							
Pesticide Product	Active Ingredient	Incident Type	Entity[1]	Consistency Index	Severity Index	State	Log Number[2]
VICTOR V RODENT KILLER	DIPHACINONE	Exposure: Ingestion	Single Animal	Consistent	Major	AZ	3309
UNKNOWN	SULFUR	Exposure: Unknown	Female	Consistent	Moderate	CA	3333
ELIMINATOR FIRE ANT KILLER PLUS GRANULES	BIFENTHRIN	Exposure: Ingestion	Single Animal	Consistent	Moderate	UN	3462
N/A	MALATHION	Exposure: Unknown	Male	Consistent	Moderate	MS	3493
N/A	BORIC ACID	Exposure: Ingestion	Single Animal	Consistent	Death	TN	3508
N/A	ZINC PHOSPHIDE	Exposure: Ingestion	Group of Animals	Consistent	Death	FN	3752
ZENPROC | PREMISE 2 INSECTICIDE | TRANSPORT (R) MIKRON INSECTICIDE | BLACK FLAG	BIFENTHRIN | PYRIPROXYFEN | LAMBDA-CYHALOTHRIN | ACETAMIPRID | IMIDACLOPRID	Exposure: Unknown | Exposure: Dermal	Male	Consistent	Moderate	PA	3790
N/A	CYFLUTHRIN	Exposure: Possible	Single Animal	Consistent	Moderate	AL	3905
N/A	ZINC PHOSPHIDE	Exposure: Possible	Group of Animals	Consistent	Death	FN	4026
N/A	MALATHION	Exposure: Inhalation	Female	Consistent	Moderate	FL	4187
ETOXAZOLE | ENTRUST | TETRASAN	ETOXAZOLE | SPINOSAD	Exposure: Possible	Group of Animals	Consistent	Death	CA	4369
MASTERLINE 7.9%	BIFENTHRIN	Exposure: Dermal	Male	Consistent	Moderate	FN	4380
SPECTRACIDE MALATHION	MALATHION	Exposure: Inhalation	Male	Consistent	Moderate	CA	4765
ADVANTAGE CARPET & UPHOLSTERY SPOT SPRAY | ADVANTAGE HOUSEHOLD SPOT & CREVICE SPRAY	ACETIC ACID | D-PHENOTHRIN | N-OCTYL BICYCLOHEPTENE DICARBOXIMIDE | IMIDACLOPRID	Exposure: Inhalation	Male	Consistent	Moderate	CA	4853
BIFEN 2 LB	BIFENTHRIN	Exposure: Inhalation	Female	Consistent	Moderate	FL	5025
EARTH POWDER FOOD GRADE DIATOMACEOUS EARTH	SILICON DIOXIDE	Exposure: Ocular	Female	Consistent	Moderate	AZ	5155

1. Human entities are described as "male" and "female," regardless of the person's age.
2. When a log number appears in the table more than once, it reflects multiple exposed entities reported in a single incident.

Table 22. NPIC incidents with compatible signs/symptoms that were greater than "minor" in severity							
Pesticide Product	Active Ingredient	Incident Type	Entity[1]	Consistency Index	Severity Index	State	Log Number[2]
CONTRAC ALL-WEATHER BLOX	BROMADIOLONE	Exposure: Possible	Single Animal	Consistent	Death	TX	5222
COMPARE-N-SAVE INDOOR/ OUTDOOR INSECT CONCENTRATE	BIFENTHRIN	Exposure: Ingestion | Exposure: Dermal	Single Animal	Consistent	Moderate	KY	5303
LIQUID-PAK NEUTRAL DISINFECTANT CLEANER | FORMULATION HWS-256 | CHAMPION SPRAYON SPRAY DISINFECTANT FORMULA 3	ETHANOL | ADBAC | DDAC	Exposure: Inhalation | Exposure: Dermal	Female	Consistent	Major	MA	5391
SILENCE	LAMBDA-CYHALOTHRIN	Exposure: Possible	Group of Animals	Consistent	Death	WI	6200
TEMPRID	CYFLUTHRIN | IMIDACLOPRID	Exposure: Dermal	Female	Consistent	Moderate	CA	6333
MGK FORMULA 2964	PIPERONYL BUTOXIDE | ESFENVALERATE | PRALLETHRIN	Exposure: Possible	Single Animal	Consistent	Death	OR	6493
DIATOMACEOUS EARTH | HOT SHOT BED BUG KILLER | RAID MAX FOAMING CRACK & CREVICE BED BUG KILLER	LAMBDA-CYHALOTHRIN | SILICON DIOXIDE | D-PHENOTHRIN | N-OCTYL BICYCLOHEPTENE DICARBOXIMIDE | IMIPROTHRIN | IMIDACLOPRID	Exposure: Unknown | Exposure: Inhalation	Female	Consistent	Moderate	MA	6504
ENOZ MOTHBALLS	PARADICHLOROBENZENE	Exposure: Inhalation	Female	Consistent	Moderate	CA	6636
DELTA DUST	DELTAMETHRIN	Exposure: Dermal	Female	Consistent	Moderate	MO	6857
CONTRAC BLOX	BROMADIOLONE	Exposure: Possible	Single Animal	Consistent	Moderate	FL	6896
MOSS B WARE	ZINC SULFATE	Exposure: Ingestion | Exposure: Inhalation | Exposure: Ocular | Exposure: Dermal	Female	Consistent	Moderate	OR	6981

1. Human entities are described as "male" and "female," regardless of the person's age.
2. When a log number appears in the table more than once, it reflects multiple exposed entities reported in a single incident.

Table 22. NPIC incidents with compatible signs/symptoms that were greater than "minor" in severity							
Pesticide Product	Active Ingredient	Incident Type	Entity[1]	Consistency Index	Severity Index	State	Log Number[2]
HARTZ FLEA COLLAR	TETRACHLORVINPHOS	Exposure: Dermal	Group of Animals	Consistent	Moderate	AR	7022
N/A	BROMADIOLONE	Exposure: Possible	Single Animal	Consistent	Major	NM	7395
N/A	BROMADIOLONE	Exposure: Unknown	Adult - Sex Unknown	Consistent	Major	UN	7517
BAYER TERMITE AND CARPENTER ANT KILLER	DELTAMETHRIN	Exposure: Unknown	Male	Consistent	Moderate	CA	7679
BONIDE MOLETOX II	ZINC PHOSPHIDE	Exposure: Possible	Wildlife	Consistent	Death	WI	8312
BONIDE MOLETOX II	ZINC PHOSPHIDE	Exposure: Possible	Wildlife	Consistent	Death	WI	8312
LAVENDER SCENTED MOTHBALLS	PARADICHLOROBENZENE	Exposure: Inhalation	Female	Consistent	Moderate	WI	8390
CUTTER BACKYARD BUG CONTROL	LAMBDA-CYHALOTHRIN	Exposure: Dermal	Female	Consistent	Moderate	MI	8915
HOT SHOT NO-PEST STRIP2	PERMETHRIN | DICHLORVOS	Exposure: Inhalation	Male	Consistent	Moderate	OR	8961

1. Human entities are described as "male" and "female," regardless of the person's age.
2. When a log number appears in the table more than once, it reflects multiple exposed entities reported in a single incident.